

# **Undergraduate Bulletin 2009-10**

## **University of Nebraska–Lincoln**

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Acceptance of registration by the University of Nebraska and admission to any educational program of the University does not constitute a contract or warranty that the University will continue indefinitely to offer the program in which a student is enrolled. The University expressly reserves the right to change, phase out, or discontinue any program.

The listing of courses contained in any University bulletin, catalog, or schedule is by way of announcement only and shall not be regarded as an offer of contract. The University expressly reserves the right to: 1) add or delete courses from its offerings; 2) change times or locations of courses or programs; 3) change academic calendars without notice; 4) cancel any course for insufficient registrations; or 5) revise or change rules, charges, fees, schedules, courses, requirements for degrees and any other policy or regulation affecting students, including, but not limited to, evaluation standards, whenever the same is considered to be in the best interests of the University.

Students who enter a college within the University in the academic year of this Bulletin are expected to complete the graduation requirements set forth by that College in this Bulletin. Students should meet with their College adviser regularly to be certain that they are aware of their progress toward graduation and compliance with changes in performance standards as regulated by the unit accrediting agencies/boards.

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The University of Nebraska-Lincoln does not discriminate based on gender, age, disability, race, color, religion, marital status, veteran's status, national or ethnic origin, or sexual orientation.



# General Information

## The Role of the University of Nebraska–Lincoln

The University of Nebraska was chartered by the Legislature in 1869 as the state's public university and land-grant institution. Founded in Lincoln, the University of Nebraska was expanded in 1968 into a state educational system under the guidance of a Board of Regents and a central administration.

The University's flagship campus, the University of Nebraska–Lincoln (UNL), includes the agricultural components organized within the Institute of Agriculture and Natural Resources. Other campuses of the system include the University of Nebraska at Omaha (UNO), the University of Nebraska Medical Center in Omaha (UNMC), and the University of Nebraska at Kearney (UNK).

Instruction is organized within individual colleges and schools on each of the four campuses. In addition to bachelors degrees, the University offers masters, professional, specialist, and doctoral degrees, which are granted by a system-wide Graduate College. The University of Nebraska Graduate College was the first established west of the Mississippi River.

## The Missions of the University of Nebraska–Lincoln

The role of the University of Nebraska–Lincoln as the primary intellectual and cultural resource for the State is fulfilled through the three missions of the University: teaching, research, and service.

UNL pursues its missions through the Colleges of Architecture, Arts and Sciences, Business Administration, Education and Human Sciences, Engineering, Hixson-Lied College of Fine and Performing Arts, Journalism and Mass Communications, Law, the university-wide Graduate College, and the Institute of Agriculture and Natural Resources which includes the College of Agricultural Sciences and Natural Resources, the Agricultural Research Division, the Cooperative Extension Division, and the Conservation and Survey Division. Special units with distinct missions include the University Libraries, Extended Education and Outreach, International Affairs, the Lied Center for Performing Arts, the Bureau of Business Research, Nebraska Educational Telecommunications, the Sheldon Museum of Art and Sculpture Garden, the University of Nebraska State Museum, the University of Nebraska Press, the Water Center, the Nebraska Forest Service, the Nebraska Statewide Arboretum, and Intercollegiate Athletics.

To capitalize on the breadth of programs and the multidisciplinary resources available at UNL, a number of centers exist to marshal faculty from a variety of disciplines to focus teaching and research on specific societal issues and to provide technical assistance for business and industry in order to enhance their ability to compete in world markets. Additionally, interdisciplinary programs promote integration of new perspectives and insights into the instructional research and service activities.

The University of Nebraska–Lincoln promotes respect for and understanding of cultural diversity in all aspects of society. It strives for a culturally diverse student body, faculty, and staff reflecting the multicultural nature of Nebraska and the nation. UNL brings international and multicultural dimensions to its programs through the involvement of its faculty in international

activities, a student body that includes students from throughout the world, exchange agreements with other universities abroad involving both students and faculty, and the incorporation of international components in a variety of courses and curricula.

Teaching, research, and service take on a distinctive character at the University of Nebraska–Lincoln because of its status as a comprehensive land-grant university. These traits provide opportunities for the integration of multiple disciplines permitting students more complete and sophisticated programs of study. Its land-grant tradition ensures a commitment to the special character of the State and its people.

The faculty is responsible for the curricular content of the various programs, and pursues new knowledge and truths within a structure that assures academic freedom in its intellectual endeavors. The curricula are designed to foster critical thinking, the re-examination of accepted truths, a respect for different perspectives including an appreciation of the multi ethnic character of the nation, and a curiosity that leads to life-long learning. Additionally, an environment exists whereby students can develop aesthetic values and human relationships including tolerance for differing viewpoints.

## Teaching

The people of Nebraska created UNL to provide its citizens with the highest quality of postsecondary education. Therefore, a fundamental mission of the University of Nebraska–Lincoln is teaching. The distinctiveness of the teaching mission at the University of Nebraska–Lincoln lies in its range of undergraduate majors, the character and quality of

the faculty, and the extracurricular environment. The University provides students with a wide choice of courses and career options which often expands the scope of their dreams and ambitions. The size and diversity of the University permits students to mature and to develop their own sense of self confidence and individual responsibility. The course work is enriched by a faculty that is engaged in active research and creative activity and whose frame of reference is the national and international community of scholars.

Having created the first graduate college west of the Mississippi River, the University of Nebraska-Lincoln has historically recognized graduate education to be a central and unique component of its mission. Thus, UNL has primary responsibility in the State for graduate education, especially at the doctoral and professional levels. UNL is unique in possessing the scope of programs necessary for multidisciplinary instruction at the graduate level, a faculty involved in research necessary to support graduate education, and the libraries, laboratories, computer facilities, museums, galleries, and other ancillary resources required for graduate instruction.

## Research

Basic and applied research and creative activity represent a major component of UNL's mission, a component that is recognized in Nebraska legislative statutes, and in its status as both a land grant and an AAU research university. The quest for new knowledge is an essential part of a research university; it helps define and attract the type of faculty necessary to provide a university education; it distinguishes the quality of the undergraduate students' classroom experience; and it is the necessary component of graduate instruction.

As part of its research mission, UNL is dedicated to the pursuit of an active research agenda producing both direct and indirect benefits to the State. The special importance of agriculture, environment, and natural resources is addressed in its research priorities. In addition, UNL conducts a high level of research and creative activities that address in specific ways the issues and problems that confront Nebraska. Through their research and creative activities, faculty at UNL interact with colleagues around the world and are part of the network of knowledge and information that so influences our society. As a consequence, the University serves as the gateway through which Nebraska participates in and shares the gains from technological and cultural developments.

## Service

The land-grant tradition creates for the University of Nebraska-Lincoln a special statewide responsibility to serve the needs of Nebraska and its citizens. In addition, many of its service aspects extend to regional, national, and international clientele. Special units such as Extended Education and Outreach, and the Cooperative Extension Division have specific responsibilities to bring the teaching and research resources of the University to a wider clientele. Through Cooperative Extension's partnership with federal, state, and county agencies, UNL has an outreach program in each

county in the state. Moreover, all units of the University have a service and outreach mission. To help accomplish this mission, UNL delivers educational services through diverse ways including telecommunications methods and as a participant in the development of regional educational centers especially in those areas where it has statewide responsibilities. The University recognizes its obligation to extend the resources of the University beyond the campus and throughout the State. Serving the needs of Nebraska requires more than responding to the felt needs of the time. UNL must be visionary in its planning and must help the citizens of the state prepare for the future as well as deal with the present.

*Approved by the Board of Regents May 10, 1991.  
College names modified February 2004; updated  
August 2005 to reflect changes in units and unit  
names.*

## Core Values of the University of Nebraska-Lincoln

Learning that prepares students for lifetime success and leadership;  
Excellence, pursued without compromise;  
Achievement in a climate that maximizes and celebrates the success of all;  
Diversity of ideas and people;  
Engagement with academic, business and civic communities throughout Nebraska and the world;  
Research and creative activity that informs teaching, fosters discovery and contributes to economic prosperity and our quality of life;  
Stewardship of the human, financial and physical resources committed to our care.

## Accreditation

The University of Nebraska-Lincoln has been accredited by the North Central Association of Colleges and Secondary Schools ([www.ncahigherlearningcommission.org](http://www.ncahigherlearningcommission.org)) since the association first began accrediting colleges and universities in 1913. The University has been a member of the Association of American Universities since 1909. In addition, various colleges, schools, and departments are accredited by their respective professional accrediting agencies.

## Enrollment

The total 2008-2009 first (fall) semester enrollment at the University of Nebraska-Lincoln was 23,573 students—of whom 18,526 were undergraduates.

## Calendar

### Tentative Academic Calendar

(This calendar replaces all previously published calendars.)

The University of Nebraska-Lincoln operates on a semester system. The first (fall) semester begins in August and ends in December; the second (spring) semester begins in January and ends in May. The University also conducts four summer sessions from May through August.

### Summer Sessions 2009

May 18-June 5	Three-week Pre-session
May 18-July 10	Eight-week Session
June 8-July 10	First Five-week Session
July 13-August 13	Second Five-week Session
August 14	Graduate Commencement
August 15	Undergraduate Commencement

### First Semester, Fall 2009

August 24	Classes Begin
September 7	Labor Day
October 19-20	Fall Break
November 25-29	Thanksgiving Vacation
December 12	Classes End
December 14-18	Final Exams
December 18	Graduate Commencement
December 19	Undergraduate Commencement

### Second Semester, Spring 2010

January 11	Classes Begin
January 18	Martin Luther King Holiday
March 14-21	Spring Vacation
May 1	Classes End
May 3-7	Final Exams
May 7	Graduate Commencement
May 8	Undergraduate Commencement

### Summer Sessions 2010

May 17-June 4	Three-week Pre-session
May 17-July 9	Eight-week Session
June 7-July 9	First Five-week Session
July 12-August 12	Second Five-week Session
August 13	Graduate Commencement
August 14	Undergraduate Commencement

## Non-discrimination Policy

The University of Nebraska-Lincoln reaffirms its desire to create an environment for all students and employees that is fair and responsible—an environment where distinctions are made on the basis of ability and performance. To that end, it is the policy of UNL to administer all of its educational and employment programs and related supporting services in a manner which does not discriminate because of an individual's gender, age, disability, race, color, religion, marital status, veteran's status, national or ethnic origin, sexual orientation, or political affiliation.

It is the policy of the University of Nebraska that students on each campus shall be admitted to

and enjoy the programs and privileges of the University without regard to individual characteristics other than qualifications for admission, academic performance, and conduct in accordance with NU policies and rules and laws applicable to student conduct.

In addition, employees on each campus of the University of Nebraska shall be employed and equitably treated in regard to the terms and conditions of their employment without regard to individual characteristics other than qualifications for employment, quality or performance of duties and conduct in regard to their employment in accordance with University policies and rules and applicable state and federal laws.

No known form of illegal discrimination and/or harassment will be condoned or tolerated. Sexual harassment is a form of illegal discrimination. It is defined as: 1) any unwanted communication of a sexual nature, whether verbal, physical, written, or pictorial, which has the purpose or effect of intimidating the person receiving the communication; or 2) any solicitation of sexual contact of any nature when submission to or rejection of such contact is used as the basis for either implicitly or explicitly imposing favorable or adverse terms and conditions of academic standing or employment.

Appropriate corrective action will be taken in those instances where the foregoing policies have been violated. Any student or employee who is found to have violated any of the aforementioned policies will be subject to disciplinary action.

Further, UNL commits itself to a program of affirmative action to encourage the enrollment of minority and female students; to identify and eliminate the effects of any past discrimination in the provisions of educational and related services; and to establish organizational structures of procedures which assure equal treatment and equal access to the facilities and educational benefits of the institution for all students.

UNL complies with all applicable laws promoting equal educational and employment opportunity prohibiting unlawful discrimination.

Information concerning violations of the policy and inquiries regarding UNL compliance with equal opportunity mandates, affirmative action, and other inclusions should be directed to:

Office for Equity Access and Diversity Programs  
University of Nebraska–Lincoln  
128 Canfield Administration Building  
PO Box 880437  
Lincoln, NE 68588-0437  
(402) 472-3417 (voice or TDD)

A formal discrimination grievance procedure is available at UNL for those seeking redress. Copies of the *University of Nebraska–Lincoln Policy and Procedures on Unlawful Discrimination, Including Sexual and Other Prohibited Harassment* are available from the Office for Equity Access and Diversity Programs and in most departments. Those wishing to file formal complaints outside UNL may contact the Equity Access and Diversity Programs Office for appropriate names and addresses of external agencies to which such communications may be directed. Students who believe that discrimination occurred within the educational setting may also contact the Director of the Office for Civil Rights, Department of Education, Washington, D.C. 20202.

## Student Honor Code

The University of Nebraska is a unified community, and we are proud of our heritage. As we look with optimism towards the future, we strive to adhere to the following code:

I will be **respectful** towards all others, their thoughts and aspirations, and will look upon them with equality and fairness.

I will be **compassionate**, always mindful of those less fortunate than I.

I will be **honest** with whom I interact, practicing integrity in my daily decisions.

I will be **mindful** of the investments others have made in the University, realizing my own responsibilities in life.

And I will always be **dignified** in who I am, striving for excellence in all I do.

*Ratified by the ASUN Senate on April 2, 1997.*

## Governance

### The Board of Regents

An eight-member board serves as the governing board for the University of Nebraska–Lincoln, the University of Nebraska Medical Center, the University of Nebraska at Omaha, and the University of Nebraska at Kearney, the four institutions that comprise the University of Nebraska system. Members of the board are elected from representative districts and serve six-year terms. The four campus student body presidents serve as nonvoting members of the board for one-year terms.

### Elected Members

*Term expires January 2009*

**Howard Hawks**, M.B.A., Omaha (District 2)  
**Timothy F. Clare**, J.D., Lincoln (District 1)

*Term expires January 2011*

**Bob Phares**, B.A., Scottsbluff (District 7)  
**Kent Schroeder**, J.D., Kearney (District 6)

*Term expires January 2013*

**Randolph M. Ferlic**, M.D., Omaha (District 8)  
**Chuck Hassebrook**, B.A., Lyons (District 3)  
**Jim McClurg**, Ph.D., Lincoln (District 5)  
**Robert L. Whitehouse**, M.S.Ed., Papillion (District 4)

### Student members

**Brad Bohn**, University of Nebraska Medical Center  
**Neal Bonacci**, University of Nebraska at Omaha  
**Megan Collins**, University of Nebraska–Lincoln  
**Cade Craig**, University of Nebraska at Kearney

## The University of Nebraska Administration

**James B. Milliken**, J.D., President  
**Linda R. Pratt**, Ph.D., Executive Vice President and Provost  
**Donald J. Burns**, Ph.D., Associate Executive Vice President and Provost, Corporation Secretary  
**Peter G. Kotsopoulos**, B.S., Vice President for University Affairs

**David E. Lechner**, B.S.B.A., Vice President for Business and Finance  
**Jody Pedersen**, J.D., Vice President and General Counsel

## The University of Nebraska–Lincoln Administration

**Harvey S. Perlman**, J.D., Chancellor  
**Barbara A. Couture**, D.A., Senior Vice Chancellor for Academic Affairs  
**Juan N. Franco**, Ph.D., Vice Chancellor for Student Affairs  
**Christine A. Jackson**, M.B.A., Vice Chancellor for Business and Finance  
**John C. Owens**, Ph.D., Vice Chancellor for the Institute of Agriculture and Natural Resources  
**Prem S. Paul**, D.V.M., Ph.D., Vice Chancellor for Research and Dean of Graduate Studies  
**Linda R. Crump**, J.D., Assistant to the Chancellor for Equity, Access and Diversity Programs  
**M. Colleen Jones**, Ph.D., Assistant to the Chancellor for Organizational Development  
**Margaret Lauerman**, Ph.D., Director of University Communications  
**William J. Nunez**, Ph.D., Director of Institutional Research and Planning  
**Susan Poser**, Ph.D., J.D., Associate to the Chancellor  
**Michelle Waite**, M.L.S., Assistant to the Chancellor for Community Relations

## The University of Nebraska–Lincoln Deans

**David H. Allen**, Ph.D., Dean of the College of Engineering  
**Alan L. Cerveny**, M.S., Dean of Admissions  
**Gary L. Cunningham**, Ph.D., Dean and Director of the Agricultural Research Division  
**Elbert C. Dickey**, Ph.D., Dean and Director of the Cooperative Extension Division  
**R. Wayne Drummond**, F.A.I.A., Dean of the College of Architecture  
**Joan R. Giesecke**, D.P.A., Dean of University Libraries  
**Rita Kean**, Ph.D., Dean of Undergraduate Studies  
**Marjorie J. Kostelnik**, Ph.D., Dean of the College of Education and Human Sciences  
**David C. Manderscheid**, Ph.D., Dean of the College of Arts and Sciences  
**Cynthia H. Milligan**, J.D., Dean of the College of Business Administration  
**Will Norton, Jr.**, Ph.D., Dean of the College of Journalism and Mass Communications  
**Giacomo M. Oliva**, Ed.D., Dean of the Hixson-Lied College of Fine and Performing Arts  
**Steven S. Waller**, Ph.D., Dean of the College of Agricultural Sciences and Natural Resources  
**Ellen M. Weissinger**, Ph.D., Dean of Graduate Studies  
**Steven L. Willborn**, J.D., Dean of the College of Law

## Deans–Omaha Programs

**Virginia P. Tilden**, R.N., D.N.Sc., Dean of the College of Nursing (UNMC)  
**Burton J. Reed**, Ph.D., Dean of the College of Public Affairs and Community Service (UNO)  
**John W. Reinhardt**, D.D.S., Dean of the College of Dentistry (UNMC)

UNL Admission Requirements	
English	4 units of English All units must include intensive reading and writing experience.
Mathematics	4 units of mathematics Must include Algebra I, II, geometry and one additional unit that builds on a knowledge of algebra or geometry.
Natural Sciences	3 units of natural sciences Including at least 2 units selected from biology, chemistry, physics, and earth sciences. One of the units must include laboratory instruction.
Social Studies	3 units of social studies At least one unit of American and/or world history and one additional unit of history, American government, and/or geography.
Foreign Language	2 units of one foreign language Must include 2 units of the same foreign language. Students who are unable to take two years of foreign language in high school may still qualify for admission. Such students will be required to take two semesters of foreign language at the University of Nebraska. These students are still required to complete 16 units of academic courses for admission.
Class Rank or ACT/SAT	For assured admission you must also graduate in the upper half of your class, or have an ACT composite score of 20 or higher, or an SAT combined score of 950.
Transfer	For assured admission, in addition to completion of core course requirements, you must also show a C average (2.0 on a 4.0 scale) for your cumulative grade point average and a C average on your most recent term of college enrollment.

## Admission to the University

Admission to the University is based on a student's demonstrated academic preparation for University-level work. Admission standards are established by the University of Nebraska Board of Regents and apply to all new, first-time, degree-seeking students. This includes freshmen as well as transfer students. These admission standards apply to general admission to the University as well as admission to each undergraduate college with the exceptions of the College of Architecture, the College of Engineering, and the Hixson-Lied College of Fine and Performing Arts. Fine and Performing Arts requires auditions for admission to the School of Music, Dance and Theatre Arts Performance. Architecture, Fine and Performing Arts, and Engineering have higher minimum performance requirements and more specific core course requirements. See the college sections in this bulletin for additional information.

### Admission Categories

**Assured Admission.** First-time students who graduate from an accredited high school, have successfully demonstrated competency in the required five subject areas, and meet minimum performance requirements are assured admission to the University. These five subject areas are English, mathematics, natural sciences, social studies, and foreign language. Successful completion of a minimum of 16 core course requirements, either at the secondary school level or at the college level, is typically used to demonstrate competency. Performance requirements for freshmen include an ACT composite score of 20 or higher, or an SAT combined score of 950 or higher, or a high school class rank in the upper one-half of the graduating class.

Prospective transfer students are also expected to demonstrate competency in the core course requirements, as well as have a cumulative grade point average of at least a C average (2.0 on a 4.0 scale) and at least a C average in the last semester of college enrollment. Several UNL undergraduate colleges require higher grade point averages for transferring into specific academic programs. See the college sections in this bulletin for more specific information about transfer requirements.

**Admission by Review.** Applications from individuals who do not meet the requirements for assured admission will receive individual review by an admissions officer. Students who are admitted through the Admission by Review process will be admitted in full standing but may have certain conditions attached to their enrollment at UNL. Students who are admitted without having completed all 16 core course requirements, for example, will be required to successfully complete specific course work in the area of deficiency. A student is expected to successfully complete this course work either prior to enrolling at UNL or by enrolling in the specified course work in his or her first semester at UNL and each subsequent semester. The time period for removal of deficiencies is explained in "Removal of Deficiencies" on page 6.

Nontraditional students, home-schooled students, students who are at least 18 years of age and who complete equivalent academic training such as the General Education Diploma (GED) and others who may have special admission situations will be considered under Admission by Review.

**Deferred Admission.** Students who do not meet the requirements for assured admission and are not admitted after individual review of their application materials will be deferred until they have gained additional academic preparation.

Any student who believes that a disability of any kind may be preventing the student from meeting the published admission requirements should

contact Services for Students with Disabilities, 132 Canfield Administration Building, (402) 472-3787, for further assistance.

**Removal of Deficiencies.** Because admission requirements establish the level of knowledge and skills which are needed for a student to succeed at UNL, students who are admitted with core course deficiencies are expected to quickly remove them. Although students are encouraged to remove all admission deficiencies prior to enrolling at UNL by taking course work in high school, by correspondence, or in a community college, students who choose to remove their admission deficiencies at UNL will be required to enroll immediately in the specified courses needed to remove their deficiencies and to remain enrolled in such courses each term until their deficiencies are fully removed.

Students must remove admission deficiencies within the following time periods:

- 4th year math admission deficiency—no later than either 1) the semester in which the student has attempted his or her first 30 credit hours at UNL, or 2) if longer, one calendar year from the time the student first enrolled at UNL.
- any foreign language admission deficiency—no later than either 1) the semester in which the student has attempted his or her first 60 credit hours at any campus in the university system, or 2) if longer, two calendar years from the time the student first enrolls at any campus in the university system.
- all other admission deficiencies—no later than either 1) the semester in which the student has attempted his or her first 30 credit hours at any campus in the university system or 2) if longer, one calendar year from the time the student first enrolled at any campus in the university system.

These time periods represent the maximum period for removing admission deficiencies. Shorter periods may apply in individual situations

depending upon a variety of factors considered in the admission review process (e.g., the expected graduation date, the program in which the student wishes to enroll, the sequence of courses required to remove the admission deficiency).

Students who fail to successfully compensate for their admission deficiencies within the established time will not be allowed to continue their enrollment at UNL until they have removed all their deficiencies.

College-level course work taken to remove high school core course requirements will not count toward graduation requirements in most of the undergraduate colleges at UNL. It will be used as elective credit only in some of the undergraduate colleges. The College of Business Administration and the College of Architecture will not count these courses towards meeting graduation requirements, not even as elective credit. The College of Agricultural Sciences and Natural Resources and the Hixson-Lied College of Fine and Performing Arts will consider courses taken to remove deficiencies to satisfy graduation requirements. The College of Education and Human Sciences course work taken to remove high school deficiencies policy is available in the College Academic Advising Center, 105 Henzlak. Additional information about University policies governing the removal of admissions deficiencies is available from the student's academic adviser.

For University policy, see "Graduation Requirements" on page 16.

## Applying for Admission

All first-time freshman and transfer applicants must provide the following:

1. A completed and signed admission application;
2. An official high school transcript (and final transcript following graduation);
3. Standardized test scores from the testing agency (freshman applicants under the age of 23);
4. GED scores (if applicable);
5. A \$45 nonrefundable application fee; and
6. Official transcripts from all postsecondary institutions attended whether credit was awarded or not.

An application for admission and additional information about applying for admission can be obtained on-line at [admissions.unl.edu](http://admissions.unl.edu) or by contacting:

Office of Admissions  
University of Nebraska–Lincoln  
1410 Q Street  
PO Box 880256  
Lincoln, NE 68588-0256  
(402) 472-2023  
(800) 742-8800 (toll-free)  
admissions@unl.edu

**Admission Deadlines.** Applications for admission can be submitted up to one year in advance of the term the student is planning to attend and should be submitted as early within this timeframe as possible. Applications are processed on a rolling basis, which means that a decision is made as soon as complete documentation is received.

All application materials must be submitted or postmarked by the following deadlines:

Semester	Deadline
Fall Semester Application	May 1
Spring Semester Application	December 1
Summer Sessions Application	May 1

**New Student Enrollment.** All new, first-time UNL students participate in New Student Enrollment for advising, orientation, and registration. The program is coordinated with the undergraduate colleges, the Office of Registration and Records, and the Division of Student Affairs. All admitted students receive information about and invitations to New Student Enrollment, Big Red Welcome and New Student Convocation. The NSE office is located at 1410 Q Street and is open year-round to answer questions and serve as a resource for new students.

**Residency.** Students whose eligibility for residency status cannot be determined at the time of application and who wish to be considered residents of Nebraska for the purpose of paying in-state tuition will be required to demonstrate that they have lived continuously in the State of Nebraska for at least 12 months prior to the term for which they are seeking residency and that the primary reason for moving to Nebraska was for purposes other than attending a postsecondary institution.

Other categories for establishing residency include graduation from a Nebraska high school (and being a legal resident of Nebraska at the time of graduation), membership in a Native American tribe that is indigenous to Nebraska, being a recruited or transferred employee, and active duty military whose official residence is in Nebraska.

Individuals who live outside the State of Nebraska but pay Nebraska income taxes may qualify for income tax credits toward the nonresident portion of their tuition. Information and applications for the income tax credit is available from Student Accounts, 124 Canfield Administration Building, 472-2887.

It is the responsibility of the applicant to provide any required documentation for the purpose of establishing residency. Detailed information about establishing residency for the purpose of paying in-state tuition is available from the Office of Admissions.

**Transfer Students.** A student who has attended a postsecondary institution other than the University of Nebraska since graduating from high school should apply for admission as a transfer student. For admission as a transfer student, applicants must have demonstrated competency in the five subject areas by completing the 16 core course requirements either at the high school or college level and have a minimum cumulative grade point average of C (2.0 on a 4.0 scale) and at least a C average in the last semester of college enrollment. (NOTE: Many UNL undergraduate colleges require higher grade point averages for admission to their programs.)

College-level course work taken to demonstrate competency in the 16 required core courses will not count toward graduation requirements in most of the undergraduate colleges at UNL. See "Removal of Deficiencies." on page 6.

Students can usually transfer credit hours earned at accredited colleges, but UNL reserves the right to accept or reject any transfer hours presented by the student. A maximum of 66 hours can be accepted from a two-year college. The dean's office of the UNL undergraduate college in which the student plans to enroll will make the final determination regarding the applicability of the transfer credits to the student's program of study.

To apply for admission, transfer applicants should complete UNL's *Application for Admission* and request that all colleges and universities they have attended send their official transcripts directly to the Office of Admissions. Transfer students must also submit official high school transcripts. Applicants who do not meet the requirements for assured admissions may be admitted by review. (See Admission Review and Removal of Deficiencies under "Admission Categories" on page 6.

Transfer students from the University of Nebraska at Kearney, University of Nebraska at Omaha, or the University of Nebraska Medical Center must complete an *Application for Admission* and a *Change of Campus* form to have their records transferred to UNL. Admission is not automatic for applicants with admission deficiencies. Applicants who do not meet the requirements for assured admission to UNL may be admitted by review. (See Admission Review and Removal of Deficiencies under "Admission Categories" on page 6.)

**Former Students.** Former UNL students who have not been in attendance for three or more consecutive semesters (the summer sessions count as one semester) must apply for readmission in order to be eligible to register for classes. They can do this by completing a *Returning UNL Student Application for Admission* and providing official transcripts from any other colleges or universities they have attended since their last enrollment at UNL.

Readmission to the University of Nebraska–Lincoln is not automatic for students who have been academically dismissed or failed to clear all admission deficiencies. Before seeking readmission to the University, these students must clear all admission deficiencies. Once all admission deficiencies are cleared, students who were not academically dismissed may immediately apply for readmission. Students who have been academically dismissed, may only apply for readmission after they have removed all admission deficiencies and the mandatory period of two consecutive semesters of non-enrollment has been met. (Summer Sessions, collectively, count as one semester.) Following this period of non-enrollment, students must complete a *Returning UNL Student Application for Admission*, a *Readmission Questionnaire* and present an official transcript showing removal of admission deficiencies. The forms are available at the Office of Admissions. Application materials, including transcripts from institutions attended since being dismissed, must be submitted by the admission deadlines. For more information about readmission to the University, see "Academic Standards" on page 14.

**Student-at-Large Applicants.** The University offers a nondegree admissions category for students who are: 1) visiting students from another

college who are in good academic standing; 2) high school students who have permission from their high school to enroll in University courses; or 3) adults living in the area who wish to take a course or two for their own personal or professional development. Students-at-Large are restricted to enrolling in no more than six credit hours per term and must reapply each term. Additional hours may be taken upon approval by the designated officers within the Office of Admissions. **Students admitted as students-at-large are ineligible for scholarships or federal financial aid.** Any student denied admission as a degree seeking student is not eligible to apply as a student-at-large.

**International Applicants.** Foreign nationals should obtain the brochure, *International Admissions Information and Application*, and follow the instructions provided there for applying to the University. The brochure is available from the Office of Admissions.

**Graduate Applicants.** For information about admission to the University as a graduate student, see "Graduate Studies" on page 22 of this bulletin.

**Professional College Applicants.** Professional college applicants should contact the appropriate college about admission procedures approximately one year before intended enrollment. The College of Dentistry (including dental hygiene), College of Medicine, College of Nursing, and College of Pharmacy are administered by the University of Nebraska Medical Center in Omaha; UNL administers the College of Law.

**Office of Admissions.** Specific questions regarding the University's admission requirements can be directed to:

Office of Admissions  
University of Nebraska-Lincoln  
1410 Q Street  
PO Box 880256  
Lincoln, NE 68588-0256  
(402) 472-2023 or  
(800) 742-8800 (toll-free)

All undergraduate applications are available online at <http://admissions.unl.edu>.

## Undergraduate Transfer Credit Policy

This statement outlines important information for students who present undergraduate credit for transfer to a degree program at the University of Nebraska-Lincoln. Transfer credit is any post-secondary credit earned at an institution outside the University of Nebraska-Lincoln, including other institutions in the University of Nebraska System (NCTA, UNK, UNO, and UNMC).

The college within the University of Nebraska-Lincoln in which a student enrolls (the degree college) has ultimate responsibility for determining how all credit, including transfer credit, will apply to a specific degree program. Evaluation of transfer credit is based on a review of the comparability of the nature, content and level of the learning

experience and its appropriateness to the student's degree program. The acceptance and use of transfer credit are subject to limitations in accordance with the educational policies of The University of Nebraska-Lincoln.

### Application for Admission of students with transfer credit

- Any student who transfers to UNL with fewer than twelve semester hours of college credit or who has postsecondary credit earned before high school graduation must meet the freshman admission requirements.
- Transfer applicants are those who currently are taking or have taken more than 12 semester credits of college or university-level course work since high school graduation.
- A student who is not a US citizen and does not hold a permanent resident authorization from the US immigration service and who has attended a post-secondary institution should apply as an International Transfer Student.
- Any student who is attending or has attended one of the four universities in the NU System and is making application for admission as a degree-seeking student at a new University of Nebraska campus should use a Change of Campus form. Application for admission to the new campus is required.
- Questions about admission requirements should be directed to Office of Admissions, 1410 Q Street, Alexander Building East, 402-472-2023, [www.admissions.unl.edu](http://www.admissions.unl.edu).

### Transfer Credit Practices

The University of Nebraska-Lincoln endorses the Joint Statement on Transfer and Award of Academic Credit approved by the American Council on Education (ACE), the American Association of Collegiate Registrars and Admissions Officers (AACRAO), and the Council for Higher Education Accreditation (CHEA). The current issue of Transfer Credit Practices of Designated Educational Institutions, published by AACRAO is an example of a reference used in determining transfer credit.

Applicants must request an official transcript sent to the Office of Admissions from each college attended. Failure to provide transcripts from all colleges or universities attended may result in denial of the application or dismissal from the university. Grades from institutions outside the Universities in the NU System will be used for evaluation and admission, but will not become part of the University cumulative Grade Point Average (GPA). Each degree college determines its policy for acceptance and application of grades below C to degree requirements.

### A. Credit presented for transfer from within the University of Nebraska System

Credit earned at any institution within the University of Nebraska System will be accepted by UNL. Applicability to degree requirements is determined by the student's degree college. Direct course equivalencies with UNK, UNO and

UNMC, established by faculty, are maintained by the NU System and are available on-line at <http://coursefinder.nebraska.edu>. Applicability of courses without direct equivalencies will be at the discretion of the degree college.

### B. Inter-institutional Agreements

- Associate to Baccalaureate Agreements.** Agreements have been established for specific programs at selected community colleges.
- Transfer courses equivalencies.** Direct equivalencies have been established by UNL faculty for courses from a number of institutions including Nebraska Community Colleges and Nebraska College of Technical Agriculture. Applicability of courses without direct equivalencies will be at the discretion of the degree college. Transfer Course Equivalency tables are available on-line at <http://admissions.unl.edu/tequiv/index.php>. While every effort is made to ensure accuracy, this information is subject to change.

### C. Credit presented for transfer which requires additional review by the degree college.

The following types of transfer credit require additional review by the student's degree college within UNL to determine applicability to the student's program of study.

- Credit in courses presented for transfer which do not have a direct equivalent as established by UNL faculty.
- Credit in courses determined by University of Nebraska-Lincoln to be of a developmental, vocational, or technical nature.
- Credit in courses or programs in which the institution granting the credit is not directly involved.
- Credit presented for transfer from institutions not accredited by one of the regional accrediting commissions. ([www.chea.org](http://www.chea.org))
- In determining the acceptability of transfer credit from colleges which are not regionally accredited, acceptance practices indicated in the current issue of Transfer Credit Practices of Designated Educational Institutions, an AACRAO publication, will be used as a guide. For institutions not listed in the publication, guidance is requested from the designated reporting institution of the appropriate state.
- Credit presented for transfer from institutions outside the United States. Transfer credit from foreign educational institutions may be granted after a determination of the type of institution involved, its recognition by the educational authorities of the foreign country, and an evaluation of the content, level, and comparability of the study to courses and programs at University of Nebraska-Lincoln. Credit may be granted in specific courses or assigned to general areas of study. Questions about foreign credentials and educational systems should be directed to the Office of Admissions.

## Special Situations, Qualifications and Limitations related to Transfer of Credit

### • Applicability of transfer credit to degree requirements

The student's degree college within the University of Nebraska–Lincoln has ultimate responsibility for determining how all credit, including transfer credit, will apply to a specific degree program.

### • Transfer credit from two-year institutions

No more than 66 semester or 98 quarter credits earned at two-year colleges can be applied to an undergraduate degree from University of Nebraska–Lincoln.

### • Lower division credit

Lower division courses transferred to UNL will generally be used to meet lower division requirements. In the event that a lower division transfer course is used as a substitution for an upper division requirement at the university a student may be required to complete additional upper division hours for graduation.

### • Residency requirement

The University's colleges may require that specific courses or a certain number of credit hours be completed on the UNL campus to satisfy the residency requirement.

### • Dual Credit earned while a student is enrolled in high school

When a student earns both high school and college credit for a course, the student must present a transcript from the original postsecondary institution offering credit for the course. Such courses will be evaluated as transfer credit.

### • Other credit earned while in high school

Many students enroll in one or more college courses while enrolled in high school. An official transcript of all courses attempted must be presented upon application unless the credit was earned at UNL. Credit from institutions outside the University of Nebraska–Lincoln will be evaluated as transfer credit.

### • Credit earned in the US Armed Forces

Students with military service will be awarded 1 credit of military science for every three months of active duty up to a total of four credits. Credit for technical or specialized schools will be accepted to the extent that the material is applicable toward degree requirements at UNL.

### • Credit by Examination (CBE)

Programs accepted at University of Nebraska–Lincoln include the Advanced Placement (AP) Program, the International Baccalaureate (IB) Examinations, the College Level Examination Program (CLEP), and departmental examinations. For information on specific exams and required scores accepted for credit at UNL see: <http://admissions.unl.edu/advanced/>. Credit by Exam (AP, IB, or CLEP credit) may not be transferred directly to University of Nebraska–Lincoln from another institution. However, the scores from these examinations may be sent to University of

Nebraska–Lincoln from the testing agency, and credit will be awarded based on UNL's AP, IB, and CLEP policies.

Students who anticipate applying to professional programs should inquire about the acceptability of Credit by Exam before registering for exams.

### • Credit by Departmental Examination

Credit by departmental examination allows regularly enrolled students to gain academic credit for knowledge they have acquired by self-study or experience. The student's knowledge base is expected to parallel that of the specific UNL course for which the student wishes to gain credit. A fee of one-half of resident tuition is charged to administer and/or evaluate an examination for credit.

Examinations for credit through UNL departments may be taken only by currently enrolled students. A student is not permitted to receive Credit by Examination in a course which is a prerequisite for a course already taken. Credit earned by examination is not applicable for use in an advanced degree program. Credit granted by another college for placement exams or locally designed test-out examinations will not be accepted in transfer.

### • University of Nebraska–Lincoln students who earn credit at another institution

Current UNL students are urged to consult with the appropriate academic adviser before enrolling in any course intended to be applied to the student's degree. Non-UNL credit for Study Abroad programs will be evaluated as transfer credit upon receipt of official transcripts. Current UNL students who wish to enroll in a course at another institution in the NU System should file an Intercampus Application, <http://admissions.unl.edu/apply/intercampus.asp>

### • University of Nebraska–Lincoln students who wish to transfer from one UNL college to another

Current UNL students seeking to gain admission to another degree college must meet all standards for admission to the new college as a transfer applicant. The new college will evaluate all of the student's credit, including transfer credit, to determine which credit will be applicable to degree requirements.

## Undergraduate Tuition and Fees

**Tuition and fees are set by the University of Nebraska Board of Regents and may be changed at any time.** At the time of publication, tuition rates had not yet been determined for the 2009-2010 academic year. As of first (fall) semester 2008, the tuition rate for undergraduate resident students was \$179.75 per credit hour. The rate for undergraduate nonresident students is \$533.75 per credit hour. Both resident and nonresident students are also assessed the University Program and Facilities Fees of \$242.00 per semester for all

students taking 1-6 credit hours; and 420.70 per semester for those taking 7 or more credit hours. Summer fees listed in the Summer Sessions class schedule vary slightly from those charged for the first and second semesters. Tuition and fees for the first semester will be due September 9, 2009.

In addition to University Program and Facilities Fees, there are also modest fees for special services, such as laboratory fees and processing late registrations. For a complete listing of current tuition rates, University Program and Facilities Fees, special lab fees, and special service fees, visit the UNL Student Accounts web site at [stuaccts.unl.edu](http://stuaccts.unl.edu).

## Scholarships and Financial Aid

The Office of Scholarships and Financial Aid administers a variety of federal, state and university financial aid programs which provide assistance to students who meet eligibility requirements, and the University's scholarship program, which recognizes exceptional academic talent and ability.

Most financial aid provided to students at UNL is coordinated through the Office of Scholarships and Financial Aid. In applying for financial aid, applicants need not limit their request to a specific grant or form of aid. Many students qualify for a combination of scholarships and need-based assistance.

All scholarship and financial aid information in this section of the *Undergraduate Bulletin* is based upon application procedures and dates for the 2009-2010 academic year. Students are encouraged to contact the Office of Scholarships and Financial Aid for changes in application procedures and dates for subsequent academic years.

For more complete information about rights and responsibilities of financial aid recipients, please refer to the Scholarships and Financial Aid Web site at [www.unl.edu/scholfa](http://www.unl.edu/scholfa).

## Scholarships

### All-University Scholarships

The All-University awards are awarded by the Office of Scholarships and Financial Aid on a rolling basis to fall semester applicants. All-University awards include the Regents, Top Scholar, David Distinguished and Canfield Scholarships. Students recognized by the National Merit, National Achievement or National Hispanic Recognition Programs will be considered for scholarships.

**General Criteria.** All eligible new first-time freshmen who apply for admission by January 15, 2009 will be considered for the All-University scholarships. Awards will be based on each applicant's academic profile, including sixth semester class rank and ACT or SAT composite scores as of December 2008.

**National Merit Scholarship:** Full tuition plus \$2,000, potentially renewable for up to 135 credit hours or completion of a bachelors degree, whichever comes first, inclusive of all undergraduate course work at all postsecondary institutions attended, and AP and IB credit.

**National Achievement Scholarship:** Full tuition plus \$2,000, potentially renewable for up to 135 credit hours or completion of a bachelors degree, whichever comes first, inclusive of all undergraduate course work at all postsecondary institutions attended, and AP and IB credit.

**National Hispanic Recognition Program:** Full tuition plus \$2,000, potentially renewable for up to 135 credit hours or completion of a bachelors degree, whichever comes first, inclusive of all undergraduate course work at all postsecondary institutions attended, and AP and IB credit.

**Regents Scholarship (in-state applicants only):** Full tuition for up to 135 credit hours or completion of a bachelors degree, whichever comes first, inclusive of all undergraduate course work at all postsecondary institutions attended, and AP and IB credit. A select group of Regents Scholars will also receive a Top Scholar stipend of \$1,500, renewable for up to four years.

**David Distinguished Scholarship:** \$1,000/year, renewable for up to four years.

**Canfield Scholarship (in-state applicants only):** \$1,000 freshmen year only.

## University Honors Scholarships

The University offers two honors programs: the University Honors Program and the Jeffrey S. Rakes School of Computer Science and Management for students interested in business and computer science. An application is required for both programs.

**Honors Program Scholarship (online application required):** Up to \$250 per semester, during the fall and spring semesters, for textbooks for up to 135 credit hours, or the completion of a bachelors degree, whichever occurs first, inclusive of all undergraduate course work at all postsecondary institutions attended, and AP and IB credit.

**J.D. Edwards Honors Program Scholarship (online application required):** Equivalent of room and board in the Kaufman Center. Scholarship benefits will be adjusted for recipients whose institutional scholarships exceed tuition, fees and books.

## Student Leadership Scholarships

The University of Nebraska recognizes students who excel and demonstrate leadership both inside and outside of the classroom with two scholarships: The Chancellor's Leadership Class Scholarship and the Pepsi Service Scholarship. Additional information is required to be considered for these scholarships. Please refer to <http://admissions.unl.edu/apply> for details.

**Chancellor's Leadership Class Scholarship (resume form required):** \$1,000 for freshmen year only.

**Pepsi Service Scholarship (resume form required, in-state applicants only):** \$1,000 for freshmen year only.

## Geographical, Need-based and Other Awards

The University offers a wide variety of scholarships that consider an applicant's academic record along with other factors such as the applicants' county and state of residence, financial need, ability

to enhance student diversity, musical and artistic talents, or other donor requirements.

**General Criteria.** All eligible students who apply for admission by January 15, 2009 will be considered. Some scholarships require you to complete additional forms or applications.

**Beadle/Leverton/Douglas Scholarships:** From 25% to 100% of the differential between in-state and out-of-state tuition for up to 135 credit hours or completion of a bachelors degree, whichever comes first, inclusive of all undergraduate course work at all postsecondary institutions attended, and AP and IB credit.

**Davis Scholarship (application required, due February 1):** \$2,000 up to the full direct cost of attendance, renewable for up to four years.

**Gupta Scholarship:** Equivalent of a standard residence hall contract, renewable for up to four years.

**Larson Scholarship:** Amount varies. Renewable for up to four years.

**Midwest Student Exchange Program (Kansas, Minnesota, Michigan, Missouri, North Dakota, Wisconsin):** Allows student to pay 150% of in-state tuition for up to 135 credit hours or completion of a bachelors degree, whichever comes first, inclusive of all undergraduate course work at all postsecondary institutions attended, and AP and IB credit.

**Native American Heritage Scholarship (application required, due February 1):** \$2,000 up to the full direct cost of attendance annually. Renewable for up to four years.

**Nebraska Achievement Scholarship (in-state applicants only):** Awarded at two different funding levels. \$1,000 award renewable for up to four years. Full undergraduate, tuition for up to 135 credit hours or completion of undergraduate degree, whichever comes first, inclusive of all undergraduate course work at all postsecondary institutions attended, and AP and IB credit.

**Nebraska Legacy Scholarship:** 50% or 100% of the differential between in-state and out-of-state tuition, renewable for up to 135 credit hours or completion of a bachelors degree, whichever comes first, inclusive of all undergraduate course work at all postsecondary institutions attended, and AP and IB credit.

**Health Sciences Scholarship (application required, due February 1):** Full tuition for freshman year only.

**Summer Institute for Promising Scholars (application required, due February 1):** Tuition, fees, books, room/board, and part-time employment during the summer term prior to the first fall semester of enrollment; \$1,000 for first year of enrollment.

## Transfer Scholarships

**General Criteria.** For full scholarship consideration, transfer students must complete and submit an admission application, personal statement (Nebraska residents only) and any additional supporting documentation to the University of

Nebraska–Lincoln Office of Admissions by March 1st for students beginning in the fall semester and October 1st for students beginning in the spring semester. The Scholarship Committee will review each student's file for consideration.

**Beadle/Leverton/Douglas Scholarships:** From 25% to 100% of the differential between in-state and out-of-state tuition for up to 135 credit hours or completion of a bachelors degree, whichever comes first, inclusive of all undergraduate course work at all postsecondary institutions attended, and AP and IB credit.

**Honors Program Scholarship (<http://honors.unl.edu>):** Students admitted to the program may be considered for a textbook scholarship.

**Midwest Student Exchange Program (Kansas, Minnesota, Michigan, Missouri, North Dakota, Wisconsin):** Allows student to pay 150% of in-state tuition for up to 135 credit hours or completion of a bachelors degree, whichever comes first, inclusive of all undergraduate course work at all postsecondary institutions attended, and AP and IB credit.

**Native American Community/Tribal College Scholarship (application required, due February 1):** Full tuition for up to 135 credit hours or completion of an undergraduate degree, whichever comes first. Benefits are inclusive of transfer hours, and AP and IB credit.

**Transfer Regents Scholarship (in-state applicants from Nebraska Community Colleges):** Full undergraduate tuition for up to four semesters.

**Transfer Student Scholarship (in-state applicants only):** \$1,000 award.

**Nebraska Legacy Scholarship:** 50% or 100% of the differential between in-state and out-of-state tuition renewable for up to 135 credit hours or completion of a bachelors degree, whichever comes first, inclusive of all undergraduate course work at all postsecondary institutions attended, and AP and IB credit.

## College-Awarded Scholarships

A limited number of awards are offered through individual colleges and departments within the University. If you are admitted into an academic college at the University (other than General Studies), your name and application information will be available for review by the college in which you have been admitted. Some colleges and departments require additional information; therefore, we suggest you personally contact these colleges and/or departments for more information.

## Other Undergraduate Scholarships

The Office of Scholarships and Financial Aid and UNL's colleges administer more than 1800 additional scholarship funds. Consideration for these scholarships is based on submission of the Application for Admission and academic resume (completed by incoming freshmen only) and the Upperclass Scholarship Application (completed by currently enrolled students). The Upperclass Scholarship Application is available from late October to February 1st in WAM! under "My Financial Aid." Most of these scholarships are

made possible by gifts from private donors. Recipients are selected on the basis of merit, interest, abilities, and/or need.

## Need-Based Assistance

To determine eligibility for need-based aid, students must complete the Free Application for Federal Student Aid (FAFSA). The 2009-2010 FAFSA is available to file electronically at [www.fafsa.ed.gov](http://www.fafsa.ed.gov).

To be considered for all types of need-based assistance, a student's FAFSA should be completed and processed as soon as possible after January 1 and before April 1, each year. Students must designate the University of Nebraska-Lincoln as a recipient of their FAFSA information. New students, and returning students who must be readmitted for the 2009-2010 academic year, must also submit all admission application materials to the University as early as possible. This includes submitting the appropriate application fee, test scores, and transcripts.

**Satisfactory Academic Progress.** To receive federal financial aid, students must be making satisfactory academic progress toward their degrees. Satisfactory academic progress is measured once each year at the end of the second semester, at which time students must have successfully completed sufficient hours with passing grades to meet the prescribed standards. Undergraduates have the equivalent of 12 full-time semesters in which to complete their first undergraduate degree under this policy. The full policy is described on the Web at [www.unl.edu/scholfa](http://www.unl.edu/scholfa).

**Withdrawing from Classes.** All students receiving federal Title IV financial assistance who withdraw will be subject to a calculation that determines "earned" and "unearned" Title IV funds. Before withdrawing, students should check with the Office of Scholarships and Financial Aid to see what (if any) repayment of federal aid may be required.

## Federal Grants

**Federal Pell Grant.** The Federal Pell Grant is awarded on the basis of financial need to undergraduate students seeking their first bachelors degree.

**Academic Competitiveness Grant (ACG).** ACG funds are awarded to first and second year undergraduate students who are Federal Pell Grant recipients, have completed a rigorous secondary school program and demonstrate financial need (second year students must maintain a 3.0 cumulative GPA).

**National Science and Mathematics Access to Retain Talent Grant (National SMART).** National SMART grants are awarded to third and fourth year undergraduate students who are Federal Pell Grant recipients, enrolled in an eligible major and demonstrate financial need (students must maintain a 3.0 cumulative GPA).

## Campus-Based Programs

Federal Supplemental Educational Opportunity Grants, Federal Work-Study, Federal Perkins Loans, and Nebraska State Grants are federal and state programs administered by the Office of Scholarships and Financial Aid (OSFA) and awarded based on the student's financial need. Awards are made on a first come, first complete basis to qualified applicants. The student should be sure to submit the FAFSA, all admission application materials, and all documentation requested by OSFA as early as possible to be considered for these campus-based types of assistance. Like all other Title IV Federal programs, awarding is subject to the availability of federal and state funds.

**Federal Supplemental Educational Opportunity Grant (FSEOG).** The Federal Supplemental Educational Opportunity Grants are awarded to Pell-eligible students. Because the FSEOG is a grant, it does not require repayment.

**Federal Work-Study.** The Federal Work-Study program permits students to earn money through on- and off-campus employment.

**Federal Perkins Loan.** Federal Perkins Loans are low-interest loans that must be repaid following a "grace period" of nine months after the student graduates, leaves school, or drops below half-time enrollment status. A promissory note which defines the payment terms of the loan is completed at the time the loan is made.

**Nebraska State Grant.** Like all other grants, Nebraska State Grants are not repaid. These grants are awarded to residents of Nebraska who demonstrate significant financial need as defined by state statutes.

## University Grants

University Tuition Assistance Grants, Tuition Assistance Program Grants, and UNL Opportunity Grants are University grant programs administered by the Office of Scholarships and Financial Aid (OSFA). These grants are awarded on a first come, first complete basis, to qualified applicants based upon financial need, and do not require repayment. The student should be sure to submit the FAFSA, all admission application materials, and all documentation requested by the OSFA as early as possible to be considered for this grant assistance.

**University Tuition Assistance Grants (UTAG).** Awarded to full-time undergraduate students based on financial need and academic criteria as defined by the Board of Regents.

**Tuition Assistance Program Grants (TAP).** Awarded to full-time undergraduate students who are Nebraska residents based on financial need and academic criteria as defined by the Board of Regents.

**UNL Opportunity Grants (UNOG).** Awarded to full-time undergraduate students who are Nebraska residents with exceptional financial need.

## Federal Direct Stafford Loan

The Federal Direct Stafford Loan is a loan made to the student by the federal government. Eligibility for a Federal Direct Stafford Loan will be indicated on the student's Financial Aid Notification. Additional information on the Financial Aid Notification will instruct students on how to complete an electronic Master Promissory Note, if necessary.

Loan repayment normally begins six months after a student graduates, leaves school, or drops below half-time enrollment status.

## Federal Direct Unsubsidized Stafford Loan

This is a federal loan program whose terms and conditions (i.e., loan limits and deferments) are the same as the Federal Direct Stafford Loan, with the exception that students are responsible for the interest during in-school and deferment periods. Interest accruing during those periods may be paid or capitalized as agreed to by the borrower and servicer. The Federal Direct Unsubsidized Stafford Loan is not based on financial need. Eligibility for a Federal Direct Unsubsidized Stafford Loan will be indicated on the student's Financial Aid Notification.

## Federal Direct PLUS Loan (Parent Loan for Undergraduate Students)

Federal Direct PLUS loans are for parents of dependent students. This loan provides additional funds to help the student and the student's family meet educational expenses. Like the Federal Direct Stafford Loan, this loan is made by the federal government. Federal Direct PLUS borrowers do not have to demonstrate financial need, but the dependent student must apply for federal aid by completing the FAFSA.

Eligibility for the Federal Direct PLUS loan will be indicated on the student's Financial Aid Notification. The Financial Aid Notification will also provide information indicating how to apply for the loan. The student's parents will be expected to begin repayment on these loans 60 days after the loan is fully disbursed, unless a deferment is requested.

## Transfer Students

Transfer students applying for spring or summer financial aid must complete a FAFSA and submit all admission application materials to UNL as early as possible. FAFSAs are available to file electronically at [www.fafsa.ed.gov](http://www.fafsa.ed.gov). Summer aid applicants must also complete UNL's Summer Financial Aid application available in WAM! under "My Financial Aid."

## Veterans

All men and women planning to attend the University using veteran benefits or vocational rehabilitation laws administered by the Veterans Administration should inquire at the Office of Registration and Records, 107 Canfield Administration Building, before they register, to make sure that all necessary steps have been taken.

## Scholarships and Financial Aid Deadlines for the 2009-2010 Academic Year

### Late October, 2009, through February 1, 2010

Currently enrolled UNL students should complete the *Upperclass Scholarship Application* available in WAM! under "My Financial Aid."

### January 1, 2010

Earliest date a 2010-2011 FAFSA can be completed. Forms completed prior to this date cannot be used to apply for federal student assistance funds for 2010-2011.

### January 15, 2010

High school seniors should submit the *Admissions Application and Resume Form* by this date to be given scholarship consideration.

New students applying for financial assistance (grants, loans, and work-study) must also submit their application for admission, high school transcript, college transcripts (if applicable), and application fee to the UNL Office of Admissions. In addition, returning students who must be readmitted to UNL must also submit all application materials necessary for readmission.

## Academic Policies and Procedures

### Academic Adviser Assignment

The University considers faculty contact with students essential to academic planning and University life. Undergraduate students are assigned academic advisers through the college or department in which they are majoring. Undergraduate students who have not yet decided upon a college will be referred to an academic adviser in the Division of General Studies.

### Students Responsibilities in Academic Advising

The University of Nebraska–Lincoln is committed to providing effective academic advising to students as an essential component of their educational experience.

Department and college advisers are assigned to students in their programs for assistance in assessing educational goals, planning programs of study, understanding program requirements, and following policies and procedures. Professional academic advisers in the Division of General Studies provide these services to students who have not yet declared their undergraduate college or major.

Students are ultimately responsible for fulfilling all the requirements of the curriculum in which they are enrolled. Students are also responsible for initiating advising contacts and preparing for advising sessions. The mentoring relationship between academic advisers and students is confidential and is strengthened by advisers listening with understanding to student concerns.

Students are expected to take responsibility for a successful university experience and effective advising session by:

1. Participating in New Student Enrollment and priority registration programs;
2. Scheduling appointments with advisers well in advance of priority registration and at other times as needed;
3. Identifying class choices from requirements of the selected program or major;
4. Identifying questions to address in advising sessions;
5. Informing advisers of any special needs, deficiencies or barriers that might affect academic success;
6. Following academic policies and procedures and meeting academic calendar deadlines (e.g. registration, fee payment, senior check/degree audit, filing for degree, etc.);
7. Knowing and completing degree or program requirements;
8. Monitoring their progress toward meeting degree requirements by maintaining a copy of their academic records and seeking assistance to resolve any errors or questions; and
9. Acting on recommendations to seek assistance from the various student support services provided by the University.

## Registration for Courses

**Priority Registration.** Currently enrolled, fully admitted undergraduate students have the opportunity to take part in priority registration for each term. Priority registration for first (fall) semester and summer sessions is in mid-March; priority registration for second (spring) semester is in mid-October. Priority registration is important to improve the chance of getting needed classes. The exact procedure for registration is outlined in each semester's *Schedule of Classes* and in the *Summer Sessions Bulletin*.

Newly admitted freshmen and undergraduate transfer students will receive materials regarding New Student Enrollment (NSE) from the Office of Admissions. NSE provides the opportunity for newly admitted students to meet with an adviser and register for classes.

**Open Registration.** The registration process is available to all eligible students who did not early register or participate in New Student Enrollment. The open registration period occurs prior to the beginning of classes each term, but after priority registration closes. See the *Schedule of Classes* and the *Summer Sessions Bulletin* for exact dates and procedures.

**Drop and Add.** A student who has registered may drop or add classes for the upcoming semester after their initial registration. The drop-and-add period extends through the first six days of classes of the new semester. No courses may be added after the sixth day of the new semester without the written permission of the student's college and the instructor of the course.

After the first six days of classes, a student will have to pay a portion of the tuition for any course dropped (even if another course is substituted).

A student may drop a full-semester course without the instructor's permission through the twelfth week of the semester. All courses dropped after the second week of the term will be noted on the student's record with a W grade. After the twelfth week of the semester no courses may be dropped.

Drop-add periods for summer session classes are adjusted appropriately based on their limited duration.

For complete procedures, dates, and regulations, see the *Schedule of Classes* and the *Summer Sessions Bulletin*.

**Auditing a Course.** Auditing gives a currently enrolled student (or currently admitted student) the privilege of attending class, but credit is not earned and a grade is not assigned when auditing a class. All persons wishing to audit a course must be admitted and eligible to enroll in classes for the term in which they audit. Courses involving extensive laboratory work are generally not open to auditors.

Audited classes carry no credit and do not count toward full-time status. All audits for a term must be declared by the student and endorsed by the instructor no later than the sixth day of class. The fee for auditing a course is the same as the regular resident or non-resident tuition for the term and both UPFF and other course fees will apply to the class.

For complete procedures for auditing a course, see the *Schedule of Classes* and the *Summer Sessions Bulletin*.

## Student Classification

Students who have earned 26 credit hours or fewer are classified as freshmen; those with 27-52 credit hours are sophomores; those with 53-88 credit hours are juniors; and those with 89 credit hours or more are seniors.

## Student Status

Undergraduate students enrolled for 12 or more credit hours at the University in a semester are full-time students. College Independent Study via correspondence courses do not apply toward full-time status.

## Student Identification Cards

All students enrolling at UNL for the first time are **required** to obtain and pay for a student NCard. There is a \$20.00 fee for issuance of the card. New undergraduate students as well as new international students are assessed this fee on their Consolidated Billing Statement. Other students needing a student NCard will pay the \$20.00 card fee when they are issued their NCard.

The photo ID card is valid for such services as dining in the residence halls, entrance to Campus Recreation facilities, accessing materials in the University Libraries, and for making charges on campus; and it

provides access to other services which most students use repeatedly during their enrollment at UNL. Lost cards are replaced for a \$20.00 fee. For more information or assistance contact the NCard Office, Main Level of the Nebraska Union, Room 121, City Campus, (402) 472-7331.

## Maximum Credit Hour Load

Undergraduate students may register for up to 18 credit hours per semester, except for the College of Business Administration which allows a maximum of 19 credit hours and the College of Arts and Sciences and the Hixson-Lied College of Fine and Performing Arts which allow a student to register for up to 20 credit hours. Written permission from the college dean is required to exceed the credit hour per semester maximum and must be filed with an Override Authorization Form at the time of registration.

## Class Attendance

Students are expected to attend all lectures, recitations, quizzes, and laboratories regularly. The University has no regulation which permits cutting classes.

Students are responsible for the attendance policy set by instructors and should clear absences directly with them.

In cases where a student is unable to contact his or her instructors due to major illness, serious injury, or hospitalization or when given military orders which are effective immediately, a notice may be sent to the student's instructors by the University Health Center, a family physician, or the Students Affairs Office, 106 Canfield Administration Building, 472-3755. This notice is for the instructor's information only and does not relieve the student of contacting instructors as soon as possible.

Students involved in University-sponsored activities, including intercollegiate athletics, may need to be excused from a class, lab, or studio meeting. In all instances it is the student's responsibility to request permission for the absence (preferably in writing) from the instructor and to discuss how the absence will affect their ability to meet the course requirements. Students should do this as soon in the semester as possible. While instructors should seek to the greatest extent possible, consistent with course requirements, to make reasonable accommodation for a student involved in University-sponsored activities, students should recognize that not every course can accommodate absences and neither the absence (nor the notification of an absence) relieves them from meeting the course requirements.

For complete information on class attendance, see the *Schedule of Classes*.

## Courses of Instruction

### Class Meeting Time

The number (if listed) following the activity type (if listed) in the course listings indicates the approximate clock hours the course/activity meets.

### Credit Hours

At the University of Nebraska-Lincoln, a semester credit hour represents the completion of a total of one or more hours of work per week for one semester (approximately 15 weeks of instruction and a week of final examinations), consisting of, but not limited to, formally scheduled events such as lectures, examinations, laboratories, quizzes, seminars, studios, recitations, and other activities by arrangement, and the informal, which includes research, study, preparation time, and may have a required final examination. The summer terms follow a prorated schedule. A mini-course is a course that does not follow the standard begin and/or end dates for the term, but follows a prorated schedule for the term.

### Course Numbering System

Courses numbered less than 100 do not carry college credit. In general, courses numbered 100-199 are for freshmen, 200-299 for sophomores, 300-399 for juniors, and 400-499 for seniors. Courses designated 400/800 are offered undergraduate or graduate credit. Courses at the 800 level without counterpart 400 or lower series numbers are identified in this bulletin with an asterisk (\*) before the course number. Courses numbered in the 500, 600, and 700 series are professional level courses (i.e. architecture, law, veterinary medicine, etc.) and are open exclusively to students admitted to these programs. Courses in the 800 and 900 series are open exclusively to graduate students except by permission of the Dean for Graduate Studies. See the *Graduate Studies Bulletin* for descriptions of the graduate-level courses.

An (ACE) before the course number means the course is an Achievement-Centered Program course.

An [ES] before a course number means the course carries Essential Studies credit.

An [IS] before a course number means the course carries Integrative Studies credit.

Academic subject names with course numbers in parentheses following the course title indicate that the course is offered (cross-listed) in two or more academic subject areas and that credit toward the degree can be earned in only one of the academic subject areas according to registration.

An "X" at the end of the course number indicates College Independent Study courses (offered by Extended Education and Outreach). See the *Schedule of Classes* for "X" courses offered on a "term basis."

The letter suffix "H" at the end of the course number indicates an honors course.

### Course Activity Type

Fld, Ind, Lab, Lec, PSI, Quiz, RCT, and Stu are course activity types although the instruction methods used may vary based on content and needs for the course. The number (if listed) following the course activity type is the approximately hours per week per semester spent in that activity type.

### Term Code

The term code "101" or 1-10 or 2009-10= First Semester of the 2009-2010 academic year. "102"= Second Semester of 2009-2010. "103"= Summer of 2010.

### Term Course Offered

A Roman numeral(s), which may be listed following the credit hours in the course description, indicates the term(s) the course is usually offered, i.e., I=1st semester; II=2nd semester; III=summer term.

### Maximum Credit Toward Degree

The last digits in the credit hour field (indicated with parentheses) in the course listings is the maximum credit allowed in the course toward the degree unless indicated otherwise.

### Subject Area Abbreviations

ACCT.....	Accounting
ACTS.....	Actuarial Science
ADVT.....	Advertising
AERO.....	Aerospace
ABUS.....	Agribusiness
AECN.....	Agricultural Economics
AGEN.....	Agricultural Engineering
ALEC.....	Agricultural Leadership, Education & Communication
AGRI.....	Agricultural Sciences
AGRO.....	Agronomy
ASCI.....	Animal Science
ANTH.....	Anthropology
AREN.....	Architectural Engineering (College of Engineering)
ARCH.....	Architecture
AHIS.....	Art History & Criticism
ARTP.....	Art Theory & Practice
ARTS.....	Art-Special Topics
CERM.....	Art-Ceramics
CHIN.....	Chinese
DRAW.....	Art-Drawing
GRPH.....	Art-Graphic Design & Illustration
PANT.....	Art-Painting
PHOT.....	Art-Photography
PRNT.....	Art-Printmaking
SCLP.....	Art-Sculpture
WATC.....	Art-Watercolor
ASTR.....	Astronomy
ATHC.....	Athletic Coaching
ATHP.....	Athletic Practice Courses
ATHT.....	Athletic Training
BIME.....	Biomedical Engineering
BIOC.....	Biological Chemistry
BIOS.....	Biological Sciences
BSEN.....	Biological Systems Engineering
BRDC.....	Broadcasting
BSAD.....	Business Administration
BLAW.....	Business Law
CHME.....	Chemical & Biomolecular Engineering
CHEM.....	Chemistry
CYAF.....	Child, Youth and Family Studies
CIVE.....	Civil Engineering
CLAS.....	Classics
CJMC.....	College of Journalism & Mass Communications
COMB.....	Combatives (Rec)
COMM.....	Communication Studies
CRPL.....	Community & Regional Planning

CSCE ... Computer Science & Computer Engineering  
 CEEN.... Computing & Electronics Engineering (UNO)  
 CEHS.....Education & Human Sciences  
 CONE....Construction Engineering (UNO/UNK)  
 CNST.....Construction Management  
 CRIM ....Criminology & Criminal Justice (UNO)  
 CZEC.....Czech  
 DANC.....Dance  
 DENT.....Dentistry (UNMC)  
 ADRS .....Dentistry-Adult Restoration  
 ENDO .....Dentistry-Endodontics  
 ORBI .....Dentistry-Oral Biology  
 ORSU .....Dentistry-Oral Surgery  
 ORTH.....Dentistry-Orthodontics  
 PEDI.....Dentistry-Pediatric  
 PERO.....Dentistry-Periodontics  
 DHYG.....Dental Hygiene (UNMC)  
 ECON .....Economics  
 EDUC .....Education  
 EDAD .....Educational Administration  
 EDPS.....Educational Psychology  
 ELEC.....Electrical Engineering  
 ENSC.....Energy Science  
 ENGM.....Engineering Mechanics  
 ENGR.....Engineering  
 ENGL....English  
 ENTO.....Entomology  
 ENTR.....Entrepreneurship  
 ENVE.....Environmental Engineering  
 ENSS.....Environmental Soil Science  
 ENVR.....Environmental Studies  
 ETHN.....Ethnic Studies  
 EURO.....European Studies  
 FINA.....Finance  
 FITN.....Fitness (Rec)  
 FDST.....Food Science & Technology  
 FORS.....Forensic Science  
 FREN.....French  
 GEOG.....Geography  
 GEOL.....Geology  
 GEOS.....Geosciences  
 GERM.....German  
 GERO.....Gerontology (UNO)  
 GRBA.....Graduate Business Administration  
 GRDC.....Graduate College  
 GRAS.....Grassland Studies  
 GPSP.....Great Plains Studies Program  
 GREK.....Greek  
 HEBR.....Hebrew  
 HIST.....History  
 HORT.....Horticulture  
 HRTM.....Hospitality, Restaurant & Tourism Management  
 HUMS.....Human Sciences  
 HUMN.....Humanities  
 HMED.....Humanities in Medicine  
 INDV.....Individual & Dual Activity (Rec)  
 IMSE.....Industrial & Management  
 IBMS.....Systems Engineering  
 IBMS.....Integrative Biomedical Sciences  
 IDES.....Interior Design  
 INTS.....International Studies  
 JAPN.....Japanese  
 JOUR.....Journalism-Core  
 JOMC.....Journalism-New Core  
 JGEN.....Journalism-General  
 JGRD.....Journalism-Graduate  
 JUDS.....Judaic Studies Program  
 LARC.....Landscape Architecture  
 (College of Architecture)  
 LATN.....Latin  
 LAMS.....Latin American Studies  
 LAW.....Law  
 LIBR.....Library  
 MNGT.....Management  
 MIST.....Management Information Systems & Technology

MET... Manufacturing Engineering Technology (UNO)  
 MRKT .....Marketing  
 MARK.....Marksmanship (Rec)  
 MATE.....Materials Engineering  
 MATH.....Mathematics  
 MECH.....Mechanical Engineering  
 MSYM .....Mechanized Systems Management  
 METL .....Metallurgical Engineering  
 METR.....Meteorology/Climatology  
 MLS.....Military Science  
 MODL .....Modern Language  
 MUSC.....Music  
 MUAP .....Music-Applied  
 MUCP .....Music-Composition  
 MUED.....Music Education  
 MUCO .....Music Ensemble-Credit Only  
 MUDC .....Music Ensemble-Degree Credit  
 MUNM .....Music for Non-Majors  
 MUOP .....Music-Opera  
 MUSR.....Music-Student Recitals  
 NRES.....Natural Resources  
 NREE.....Natural Resources & Environmental  
 Economics  
 NAVS.....Naval Science  
 NEWS.....News-Editorial  
 NURS.....Nursing (UNMC)  
 NMED.....Nursing Medicine (UNMC)  
 NUTR.....Nutrition & Health Sciences  
 ODED.....Outdoor Education (Rec)  
 PHIL.....Philosophy  
 PHYS.....Physics  
 PLPT.....Plant Pathology  
 POLS.....Political Science  
 PGMP... Professional Golf Management Program  
 PSYC.....Psychology  
 PA.....Public Administration (UNO)  
 RACS.....Racquet Sports (Rec)  
 RAIK .....Jeffrey S. Raikes School  
 of Computer Science & Management  
 RNGE.....Rangeland Ecosystems  
 RECR.....Recreational Theory  
 RELG.....Religious Studies Program  
 RUSS.....Russian  
 SCIE.....Sciences  
 SOCI.....Sociology  
 SOCS.....Social Science  
 SOCW .....Social Work (UNO)  
 SOIL.....Soil Science  
 SPAN.....Spanish  
 SPED.....Special Education  
 SPCW .....Special Waiver (*International Affairs*)  
 SLPA ..Speech-Language Pathology & Audiology  
 STAT.....Statistics  
 SRAM.....Survey Research & Methodology  
 TEAC.....Teaching, Learning & Teacher Education  
 TXCD.....Textiles, Clothing & Design  
 THEA.....Theatre Arts  
 TOXI.....Toxicology  
 TLMT.....Turfgras & Landscape Management  
 UACA.....University Academy  
 UHON.....University Honors Program  
 USTD.....University Studies  
 VBMS.....Veterinary & Biomedical Sciences  
 VMED.....Veterinary Medicine\*  
 WATS .....Water Science  
 WMNS.....Women & Gender Studies Program  
 \* *Professional program offered in conjunction with Iowa State University.*

coreg .....coregistration (*denotes taking another class along with the one listed*) (*See parallel*)  
 cr or crs.....credit or credit hours  
 cr arr .....credit hours arranged  
 cum.....cumulative grade point average (*see GPA*)  
 D .....Extended Education (*contract course*)  
 Ed or Educ .....Education  
 ES .....Essential Studies Program  
 elem .....elementary  
 F .....Distance Education-“Field” Class  
 fld .....field  
 fund or fun .....fundamentals  
 G .....graduate  
 GPA.....Grade Point Average  
 grad or Grad .....graduate  
 H .....Honors  
 hr or hrs .....hours  
 I or inc .....incomplete  
 ind .....independent  
 intermed .....intermediate  
 intro or intr .....introduction  
 IS .....Integrative Studies Program  
 L .....laboratory with credit hours  
 Lab or lab .....laboratory  
 Lec .....lecture  
 max .....maximum  
 NP or N .....No Pass credit allowed toward degree  
 NR .....No Report  
 P .....Pass  
 P/N .....Pass/No Pass  
 PO .....Pass/No Pass grading option  
 parallel.... denotes taking another class along with  
 .....the one listed (*a corequisite or coregistration*)  
 Prereq or preq .....prerequisite  
 princ .....principles  
 Pro or prof .....professional  
 PSI .....Personal System of Instruction  
 quiz .....quiz  
 Rec .....Recreation  
 rct or Reci .....recitation  
 rsh .....research  
 S .....(denotes) Distance Education class  
 sec .....secondary  
 sem .....semester  
 smnr .....seminar  
 Stu or stu .....studio  
 TBA .....to be assigned  
 tch .....teach  
 tchr .....teacher  
 tchng .....teaching  
 tech .....technology or technical  
 UG .....undergraduate  
 UNL .....University of Nebraska-Lincoln  
 UNMC ....University of Nebraska Medical Center  
 UNO .....University of Nebraska at Omaha  
 W .....withdrew  
 X .....College Independent Study course  
 / .....and/or  
 & .....and  
 + .....and  
 > .....greater than  
 < .....less than  
 - .....dash or “to”

## Course Prerequisites and Corequisites

Course prerequisites indicate the level of preparation a student must have had to take a given course. Equivalent preparation is generally sufficient. If there is doubt about a student's preparation level, permission to enroll may be requested from the instructor of the course or from the department chairperson. Academic departments reserve the right to deny admission in a course if the prerequisite has not been completed. Academic departments reserve the right to give permission

## Abbreviations and Symbols Commonly Used In The Bulletin:

ACE.....Achievement-Centered Education  
 anly or anlys .....analysis  
 appl or apps or ap .....application or applied  
 arr .....arranged  
 corec .....corequisite (*See parallel*)

or waive the prerequisite for any course or to substitute for the prerequisite learning obtained by other means than through the prerequisite course(s). See the Courses of Instruction section for each undergraduate college in this bulletin for official listing of course prerequisites.

The use of the words "parallel", "corequisite", or "coregister with" in the prerequisite for a course means that both courses are to be taken simultaneously.

## Grading System

The University uses an A through F grading system. The letter grades with point value (in parentheses) are: A+ (4.0), A (4.0), A- (3.67), B+ (3.33), B (3.0), B- (2.67), C+ (2.33), C (2.0), C- (1.67), D+ (1.33), D (1.0), D- (0.67), and F (0). Grades of W (dropped/withdrew), I (incomplete), P (pass/C or better), and N (no pass) may also be given. W, I, P, and N are not assigned grade points and therefore are not used in computation of a student's grade point average.

## Academic Standards

**Probation.** A student who receives a semester grade point average (GPA) of less than 2.00 or ends a semester with a cumulative GPA below 2.00 will be placed (or will continue) on probation. The student will remain on probation until a semester is completed with both a semester and cumulative GPA at or above 2.00, or until the student is dismissed.

**Academic Dismissal.** A student will be dismissed from UNL at the end of any semester\* in which the following conditions exist:

1. Cumulative Credit Hours\*\* 1-18: more than one semester attended and a cumulative grade point average (GPA) below 1.00.
2. Cumulative Credit Hours 19-45: cumulative GPA below 2.00 at end of prior semester, and both semester and cumulative GPAs are below 1.75 or three consecutive semesters on probation. The unsuccessful semester which places the student on probation is considered the first of the three consecutive semesters on probation.
3. Cumulative Credit Hours 46 and above: cumulative GPA below 2.00 at end of prior semester, and both semester and cumulative GPAs are below 2.00 or three consecutive semesters on probation.

\* **NOTE:** Course work taken during any of the four summer sessions will be collectively considered as one semester of attendance.

\*\* **NOTE:** For the purposes of enforcing academic standards, cumulative credit hours include the following:

1. Credit hours that a student registered for and did not drop during the first two weeks of the course. These are the courses that are subject to a grade.
2. All transfer hours presented.

**Readmission.** A student who has been dismissed from UNL will be denied enrollment privileges for at least two consecutive semesters (the four summer sessions count as one semester) and will not be allowed to enroll until all admission deficiencies have been cleared. Readmission to UNL is not automatic. A dismissed student may apply for readmission to UNL for the semester following the mandatory "stop-out" period or any subsequent semesters. Applications for readmission will be evaluated by the Office of Admissions in accordance with criteria established by each of the colleges. Decisions regarding specific college readmission will be made by the individual college in which the student seeks to enroll after readmission.

## Honors Convocation Recognition Requirements

Honors Convocation recognition requirements for students entering the University after the Spring Semester 2004 require that those eligible for recognition be in the top ten percent of their college class based on their cumulative grade point average (but with a cumulative GPA no lower than 3.6) and meet the additional requirements stated below.

Students whose first college matriculation at UNL (after high school graduation) occurred before June 2004 will be recognized on the basis of recognition requirements in force at that time. This policy will also apply to transfer students from UNO and UNK whose first college matriculation at those institutions preceded the June 2004 implementation of the recognition criteria.

Honors Convocation criteria for students entering the University in the 2004-05 academic year and after are listed below. Students will be recognized only for the highest award for which they qualify.

**High Scholarship.** Students must be in the top ten percent of their college class based on their cumulative grade point average and meet the following specific requirements:

1. Required semesters in residence at UNL: juniors and seniors must have completed at least 3 semesters or 42 credit hours at UNL; sophomores must have completed at least 2 semesters or 28 credit hours; freshmen must have completed at least 1 semester or 12 credit hours.
2. Hours completed first semester: seniors must complete a minimum of 9 hours, of which 6 must be graded A through F. (Student teachers in the College of Education and Human Sciences may be exceptions.) Students graduating in December may take only those hours needed for graduation. Juniors, sophomores, and freshmen must complete a minimum of 12 hours first (fall) semester, at least 9 of which are graded A through F.

**Superior Scholarship.** Superior scholarship students are seniors graduating between December and August who: 1) meet the requirements for high scholarship for seniors, and 2) are in the upper three percent of the senior class of their college or have been on the UNL Honors Convocation list each year since matriculation as a freshman.

**Chancellor's Scholars.** Seniors graduating between December and August qualify for this award if they meet the following criteria.

1. Graduating seniors must have earned the grade of A in all graded collegiate work at UNL and at other institutions and a grade of P for all classes taken in the Pass/No Pass grading option (excluding foreign study and collegiate work taken prior to the student's graduation from high school. The student must request the exclusion of a grade taken prior to graduation from high school and the re-calculation of the GPA in writing to the University Honors Program, 118 NRC, 0659, by March 1). At least 42 graded semester hours must have been earned at UNL by the end of first (fall) semester of the academic year of graduation.
2. During first semester, a student must complete a minimum of 9 total hours with no more than 3 hours of Pass/No Pass course work. (Student teachers in the College of Education and Human Sciences may be exceptions.) Students graduating in December may take only those hours needed for graduation.

**General Information for Honors.** Students with grade changes or students finishing incompletes after January 1 should contact the Office of the University Honors Program to see that these changes have been recorded.

All grades are averaged in figuring cumulative GPA. Students repeating a class to remove C-, D, or F grades will have both the original and the repeat grade used to calculate GPA.

Only those seniors recognized as Superior Scholars and Chancellor's Scholars (see above) need to order caps and gowns for the Honors Convocation ceremonies. The Honors Convocation invitation will give appropriate instructions.

**NOTE:** Only University of Nebraska system grades are used to compute the GPA for Honors. For computing the GPA for Honors, a student may request the exclusion of a University of Nebraska system grade earned in a course taken prior to graduation from high school. This request for a re-calculation of the GPA must be made in writing to the University Honors Program, 118 NRC, 0659, prior to March 1. UNL, UNO, UNK, and UNMC students are considered resident students.

## Grading Policies

University faculty members are expected to inform students early in the semester of course objectives, requirements, standards, and grading procedures for the particular course. In addition, they should make clear their individual policies regarding the Pass/No Pass grading option and the assignment of I (incomplete) grades. Failure of any faculty member to inform students of special restrictions in these areas could be grounds for a grade appeal case. Grade appeal procedures exist in all UNL undergraduate colleges (see *Grade Appeals* in individual undergraduate college sections of this bulletin).

### Pass/No Pass Grading Option

The Pass/No Pass grading option was designed to enable students to take courses in areas of interest where they may feel they have had minimal preparation without adversely affecting their grade point average. Grades of P (pass) are interpreted as a grade of C or better. Neither grade P or N (no pass) contributes to the grade point average.

There are collegiate restrictions on the use of this grading option. Students should see *Pass/No Pass* in individual undergraduate college sections of this bulletin, see the *Schedule of Classes*, and talk with their academic advisers concerning the use of this option.

### Grades of Incomplete

The grade I is used by an instructor at the end of a term to designate incomplete work in a course. It should be used only when students are unable to complete the requirements of the course in the term in which they are registered because of illness, military service, hardship, or death in the immediate family. Incompletes should only be given if the student has already substantially completed the major requirements of the course.

For complete procedures and regulations, see the *Schedule of Classes* and the *Summer Sessions Bulletin*.

### Course Repeat Policy

Only the most recent letter grade received in a given course will be used in computing a student's cumulative grade point average if the student has completed the course more than once and previously received a grade or grades below C in that course.

The previous grade (or grades) will not be used in computation of the cumulative grade point average, but it will remain a part of the academic record and will appear on any transcript.

A student can remove from his/her cumulative average a course grade of C-, D+, D, D-, or F if the student repeats the equivalent course at the University of Nebraska and receives a grade other than P (pass), I (incomplete), N (no pass), W (withdrew), or NR (no report). If a course is no longer being offered, it is not eligible for the removal process.

For complete procedures and regulations, see the *Schedule of Classes* and the *Summer Sessions Bulletin*.

### Automatic Removal of Grade Factors From Cumulative GPA For Repeated Courses

Courses graded A+ to F for the current semester are checked against all courses taken since the installation of the computerized records system (September, 1986) and grade factors are automatically subtracted for repeated courses originally graded C-, D+, D, D-, or F.

### Exceptions to Automatic Grade Factor Removal Processing

Independent study courses, special topics courses and variable credit hour courses will not be processed automatically. These courses will be identified to Registration and Records to check the C-, D+, D, D- or F status manually. Any of these courses that qualify for removal will be processed

manually by Registration and Records. The student will be notified of the change by a Grade Notification letter.

### Students must complete an "Undergraduate Course Repeat Re-Computation Request" for the following situations:

1. Repeated courses which were first taken prior to the First Semester 1986-87.
2. UNMC, UNO, UNK equivalent course.
3. Late grades or grade changes after the grade census date (approximately three weeks after the end of the term).
4. Cross-listed courses (i.e., FINA/ECON 365).

Requests for course repeat(s) processing for these exception-type situations are available at, and must be submitted to Registration and Records, 107 Canfield Administration Building, approximately three weeks after the end of the term. Removals processed during this revision period will be reflected in the official (census date) cumulative grade point average. Students not meeting this deadline will be notified of the change approximately two weeks after the request is received. Late changes will not be reflected in the official (census date) cumulative grade point average.

### Academic Bankruptcy

A student may remove one or two complete semesters of work from their cumulative grade point average and degree consideration by applying to Registration and Records for academic bankruptcy. To qualify, a student must have completed either 15 simultaneous or sequential credit hours with a minimum 3.0 grade point average or 30 hours with a minimum 2.5 grade point average at UNL following the semester(s) the student wishes to remove.

In order to declare a semester bankrupt, all courses taken during the semester are bankrupt (both credit hours and grades). The bankrupt semester is removed from consideration for cumulative grade point average purposes and the bankrupt credit is not used for degree requirements. The semester listing of courses and grades remain evident on the academic record which is used to issue transcripts. A student may not bankrupt a semester after receiving a baccalaureate degree. College Independent Study via Extended Education and Outreach is not included in computing qualifying grade point averages; P grades may not be used to meet bankruptcy requirements.

For complete procedures and regulations, see the *Schedule of Classes*.

### Advanced Placement

In order to help students gain credit by advanced standing, the University provides opportunities for advanced placement. UNL participates in the Advanced Placement Program (AP) of the College Entrance Examination Board and the College Level Examination Program (CLEP). Students can obtain detailed information on acceptable courses from the Office of Admissions.

### Credit by Examination

Some currently-enrolled students, through outside study or relevant experience, may feel prepared to demonstrate that they have attained the knowledge and/or skills required to pass a particular UNL course. As an alternative to enrolling in the course, such students may elect to take a proficiency exam which tests for mastery of the course material. If a student scores satisfactorily on the examination, the student may be awarded credit for the course. Students can obtain detailed information from the dean's office of their college.

### Changing Personal Information on University Records

The student is responsible for notifying Registration and Records of corrections/changes in address, name, social security number, college, degree, major or adviser; the Office of Admissions for corrections/changes in residency.

## Graduation Requirements

UNL Policy: Removal of High School Deficiencies (approved by UNL Dean's Council, August 29, 2006)

UNL students are expected to remove all high school deficiencies within the first 30 hours (foreign language is to be removed within 60 hours) of their course work at UNL. Students will not be permitted to graduate from UNL unless they have met the requirements for removal of a high school deficiency; however, the college Dean has the authority to determine the individual circumstances under which a student has met the intent of completing the high school deficiency and may graduate.

### Oversight Responsibility and Notification Process

- In May of each academic year the Office of Registration and Records will notify students who have not made progress towards removal from their official UNL records of any high school course deficiency with which they entered a degree program at UNL. The notification will contain the UNL policy as well as a recommendation will be made that the student meet with his/her academic adviser for assistance.
- The student's academic adviser will receive notification through a copy of the student letter to place in student's advising folder.
- The college dean will receive a listing of all students in the college who were notified as well as the number of credit hours completed by the student, the deficiency and the name of the student's assigned adviser.

## General Education Requirements (ACE)

First-year students who begin matriculation at UNL in fall 2009 are required to complete the new general education requirements for the Achievement-Centered Education (ACE) Program.

**It is anticipated that UNL students matriculating prior to fall 2009 will continue to complete the CEP General Education Program requirements as designated by the bulletin year in which the student started his or her UNL college program. (See page 389). Students who transfer to UNL as of fall 2009 may elect to complete their program under the CEP General Education Program requirements. See your academic adviser.**

### Achievement-Centered Education (ACE)

Consistent with the mission and values of the University, ACE is based on a shared set of four institutional objectives and 10 student learning outcomes. The ACE program was approved by faculty in all eight undergraduate colleges and endorsed by the Faculty Senate, the student government, and the Academic Planning Committee in January 2008 for implementation in the fall 2009. ACE aligns with current national initiatives in general education.

Key characteristics of ACE demonstrate the benefits of the program to students:

- Students receive a broad education with exposure to multiple disciplines, critical life skills and important reasoning, inquiry, and civic capacities.
- ACE is simple and transparent for students, faculty and advisers. Students complete the equivalent of 3 credit hours for each of the ten student learning outcomes.
- Students connect and integrate their ACE experiences with their selected major.
- Students can transfer all ACE certified courses across colleges within the institution to meet the ACE requirement and any course from outside the institution that is directly equivalent to a UNL ACE-certified course. Courses from outside institutions without direct equivalents may be considered with appropriate documentation for ACE credit (see academic adviser).
- ACE allows faculty to assess and improve their effectiveness and facilitate students' learning.

### ACE Institutional Objectives and Student Learning Outcomes

To meet the ACE Program requirement, a student will complete the equivalent of 3 credit hours for each of the following ten ACE Student Learning Outcomes (a total of 30 ACE credit hours):

#### Institutional Objective 1:

**Develop intellectual and practical skills, including proficiency in written, oral, and visual communication; inquiry techniques; critical and creative thinking; quantitative applications; information assessment; teamwork; and problem-solving.**

**ACE 1:** Write texts, in various forms, with an identified purpose, that respond to specific audience needs, incorporate research or existing knowledge, and use applicable documentation and appropriate conventions of format and structure.

**ACE 2:** Demonstrate communication competence in one or more of the following ways: (a) by making oral presentations with supporting materials, (b) by leading and participating in problem-solving teams, (c) by employing a repertoire of communication skills for developing and maintaining professional and personal relationships, or (d) by creating and interpreting visual information.

**ACE 3:** Use mathematical, computational, statistical, or formal reasoning (including reasoning based on principles of logic) to solve problems, draw inferences, and determine reasonableness.

#### Institutional Objective 2:

**Build knowledge of diverse peoples and cultures and of the natural and physical world through the study of mathematics, sciences and technologies, histories, humanities, arts, social sciences, and human diversity.**

**ACE 4:** Use scientific methods and knowledge of the natural and physical world to address problems through inquiry, interpretation, analysis, and the making of inferences from data, to determine whether conclusions or solutions are reasonable.

**ACE 5:** Use knowledge, historical perspectives, analysis, interpretation, critical evaluation, and the standards of evidence appropriate to the humanities to address problems and issues.

**ACE 6:** Use knowledge, theories, methods, and historical perspectives appropriate to the social sciences to understand and evaluate human behavior.

**ACE 7:** Use knowledge, theories, or methods appropriate to the arts to understand their context and significance.

#### Institutional Objective 3:

**Exercise individual and social responsibilities through the study of ethical principles and reasoning, application of civic knowledge, interaction with diverse cultures, and engagement with global issues.**

**ACE 8:** Explain ethical principles, civics, and stewardship, and their importance to society.

**ACE 9:** Exhibit global awareness or knowledge of human diversity through analysis of an issue.

#### Institutional Objective 4:

**Integrate these abilities and capacities, adapting them to new settings, questions, and responsibilities.**

**ACE 10:** Generate a creative or scholarly product that requires broad knowledge, appropriate technical proficiency, information collection, synthesis, interpretation, presentation, and reflection.

### ACE Structural Criteria

Graduates of the University of Nebraska–Lincoln will satisfy the requirements of their majors, their colleges, and the ACE Program.

1. ACE courses are credit-bearing curricular offerings or equivalent documented co-curricular experiences.
2. The ACE Program will consist of the equivalent of 3 credit hours for each of the ten ACE Student Learning Outcomes.
3. Any ACE course approved to satisfy an ACE Student Learning Outcome satisfies that Student Learning Outcome in all UNL undergraduate colleges.
4. Up to three ACE Student Learning Outcomes 4-10 may be satisfied by work in one subject area.
5. ACE Student Learning Outcomes must be satisfied by work in at least three subject areas.
6. No ACE course may satisfy more than one ACE Student Learning Outcome in a student's program.
7. If an ACE course addressed two ACE Student Learning Outcomes, the student decides which one of the two Outcomes the course will satisfy in that student's program.
8. Every ACE course will reinforce at least one of the following as appropriate for the discipline and as identified by the department offering the course: Writing, Oral Communication, Visual Literacy, Historical Perspectives, Mathematics and Statistics, Critical Thinking, Teamwork, Problem Solving, Ethics, Civics, Social Responsibility, Global Awareness, or Human Diversity.

A list of ACE courses is found under "Achievement-Centered Education Program List" on page 383 of this bulletin, and they are identified in course descriptions by the ACE symbol followed by the Student Learning Outcome number(s) that they fulfill. See the ACE Web site at: <http://ace.unl.edu> for the most current information and the most recently certified courses.

## Major Academic Components

### Undergraduate Colleges

At the University of Nebraska–Lincoln there are eight undergraduate colleges offering programs leading to the bachelors degree. They include the College of Agricultural Sciences and Natural Resources, the College of Architecture, the College of Arts and Sciences, the College of Business Administration, the College of Education and Human Sciences, the College of Engineering, the Hixson-Lied College of Fine and Performing Arts, and the College of Journalism and Mass Communications. In addition, UNL students can earn bachelors degrees in several special programs offered on the UNL campus but administered by the University of Nebraska at Omaha and the University of Nebraska Medical Center. These programs are described in detail in "Programs on the UNL Campus Administered by Omaha Units" on

page 373 of this bulletin. Bachelors degree programs offered by UNL's undergraduate colleges are described in detail in the sections of this bulletin devoted to each of the University's colleges.

The following section lists alphabetically the bachelors degree programs available at the University of Nebraska–Lincoln and in parentheses identifies the college or colleges offering each program. Programs at UNL administered by UNO or UNMC are identified as "Special Programs."

## Degree Programs

Accounting (Business Administration)  
 Actuarial Science (Arts and Sciences, Business Administration)  
 Advertising (Journalism and Mass Communications)  
 Agribusiness (Agricultural Sciences and Natural Resources, Business Administration)  
 Agricultural Economics (Agricultural Sciences and Natural Resources)  
 Agricultural Education (Agricultural Sciences and Natural Resources)  
 Agricultural Engineering (Engineering)  
 Agricultural Journalism (Agricultural Sciences and Natural Resources)  
 Agronomy (Agricultural Sciences and Natural Resources)  
 Animal Science (Agricultural Sciences and Natural Resources)  
 Anthropology (Arts and Sciences)  
 Applied Science (Agricultural Sciences and Natural Resources)  
 Architectural Studies (Architecture)  
 Art (Fine and Performing Arts, Education and Human Sciences)  
 Art History and Criticism (Fine and Performing Arts)  
 Athletic Training (Education and Human Sciences)  
 Biochemistry (Arts and Sciences, Agricultural Sciences and Natural Resources)  
 Biological Sciences (Arts and Sciences)  
 Biological Systems Engineering (Engineering, Agricultural Sciences and Natural Resources)  
 Biology (Education and Human Sciences)  
 Broadcasting (Journalism and Mass Communications)  
 Business Administration (Business Administration)  
 Business Education/Cooperative Education (Education and Human Sciences)  
 Chemical Engineering (Engineering)  
 Chemistry (Arts and Sciences, Education and Human Sciences)  
 Child, Youth and Family Studies (Education and Human Sciences)  
 Civil Engineering (Engineering) (Lincoln and Omaha)  
 Classical Languages (Arts and Sciences)  
 Classics and Religious Studies (Arts and Sciences)  
 Communication Studies (Arts and Sciences, Education and Human Sciences)  
 Computer Engineering (Engineering)  
 Computer Science (Arts and Sciences, Engineering)  
 Construction Engineering (Engineering)  
 Construction Management (Engineering)  
 Criminal Justice (Special Program)  
 Dance (Fine and Performing Arts)  
 Dental Hygiene (Special Program)  
 Earth Science (Education and Human Sciences)  
 Economics (Arts and Sciences, Business Administration)  
 Economics and History (Education and Human Sciences)

Electrical Engineering (Engineering)  
 Elementary Education (Education and Human Sciences)  
 Elementary Education/Early Childhood Education (Education and Human Sciences)  
 Elementary Education and Mild/Moderate Disabilities (Education and Human Sciences)  
 English (Arts and Sciences, Education and Human Sciences)  
 English as a Second Language (Education and Human Sciences)  
 Environmental Restoration Science (Agricultural Sciences and Natural Resources)  
 Environmental Studies (Arts and Sciences, Agricultural Sciences and Natural Resources)  
 Ethnic Studies (Arts and Sciences)  
 European Studies (Arts and Sciences)  
 Finance (Business Administration)  
 Fisheries and Wildlife (Agricultural Sciences and Natural Resources)  
 Food Science and Technology (Agricultural Sciences and Natural Resources)  
 Food Technology for Companion Animals (Agricultural Sciences and Natural Resources)  
 French (Arts and Sciences, Education and Human Sciences)  
 Forensic Science (Agricultural Sciences and Natural Resources)  
 Geography (Arts and Sciences)  
 Geography and History (Education and Human Sciences)  
 Geology (Arts and Sciences)  
 German (Arts and Sciences, Education and Human Sciences)  
 Grassland Ecology and Management (Agricultural Sciences and Natural Resources)  
 Grazing Livestock Systems (Agricultural Sciences and Natural Resources)  
 Great Plains Studies (Arts and Sciences)  
 Deaf or Hard of Hearing (Education and Human Sciences)  
 History (Arts and Sciences, Education and Human Sciences)  
 Horticulture (Agricultural Sciences and Natural Resources)  
 Hospitality, Restaurant and Tourism Management (Agricultural Sciences and Natural Resources, Education and Human Sciences)  
 Industrial Engineering (Engineering)  
 Insect Science (Agricultural Sciences and Natural Resources)  
 Integrated Studies (Arts and Sciences)  
 Interdisciplinary Studies (Fine and Performing Arts)  
 Interior Design (Architecture)  
 International Studies (Arts and Sciences)  
 International Business (Business Administration)  
 Journalism and English (Education and Human Sciences)  
 Landscape Architecture (Architecture)  
 Language Arts (Education and Human Sciences)  
 Latin (Arts and Sciences)  
 Latin American Studies (Arts and Sciences)  
 Management (Business Administration)  
 Marketing (Business Administration)  
 Marketing Education/Basic Business–Cooperative Education (Education and Human Sciences)  
 Mathematics (Arts and Sciences, Education and Human Sciences)  
 Mathematics and Statistics (Arts and Sciences)  
 Mechanical Engineering (Engineering)  
 Mechanized Systems Management (Agricultural Sciences and Natural Resources)  
 Meteorology–Climatology (Arts and Sciences)  
 Mild/Moderate Disabilities (Education and Human Sciences)  
 Music (Fine and Performing Arts)  
 Music/Instrumental (Fine and Performing Arts)  
 Music/Vocal (Fine and Performing Arts)  
 Music/Vocal and Instrumental (Fine and Performing Arts)  
 Natural Resource and Environmental Economics (Agricultural Sciences and Natural Resources)  
 Natural Science (Education and Human Sciences)  
 News and Editorial (Journalism and Mass Communications)  
 Nursing (Special Program)  
 Nutrition and Health Sciences (Education and Human Sciences)  
 Philosophy (Arts and Sciences)  
 Physical Science (Education and Human Sciences)  
 Physics (Arts and Sciences, Education and Human Sciences)  
 Plant Biology (Agricultural Sciences and Natural Resources, Arts and Sciences)  
 Plant Protection Sciences (Agricultural Sciences and Natural Resources)  
 Political Science (Arts and Sciences)  
 Political Science and History (Education and Human Sciences)  
 Professional Golf Management (Agricultural Sciences and Natural Resources)  
 Psychology (Arts and Sciences)  
 Russian (Arts and Sciences, Education and Human Sciences)  
 Social Science (Education and Human Sciences)  
 Social Work (Special Program)  
 Sociology (Arts and Sciences)  
 Spanish (Arts and Sciences, Education and Human Sciences)  
 Special Education/Mild Moderate Disabilities (Education and Human Sciences)  
 Speech and English (Education and Human Sciences)  
 Speech-Language Pathologist (Education and Human Sciences)  
 Speech-Language Pathology and Audiology (Arts and Sciences)  
 Textiles, Clothing, and Design (Education and Human Sciences)  
 Theatre Arts (Fine and Performing Arts)  
 Theatre and English (Education and Human Sciences)  
 Turfgrass and Landscape Management (Agricultural Sciences and Natural Resources)  
 University Studies (Arts and Sciences)  
 Veterinary Science (Agricultural Sciences and Natural Resources)  
 Veterinary Technologist (Agricultural Sciences and Natural Resources)  
 Water Science (Agricultural Sciences and Natural Resources)  
 Women's and Gender Studies (Arts and Sciences)

## Special Undergraduate Programs

### Preprofessional Studies

In addition to undergraduate programs leading to a bachelors degree, several UNL colleges offer preprofessional programs of study designed to prepare students for advanced training or professional study after graduation.

These are not programs with a predetermined outline of courses leading to a degree in a specific professional field. Rather, with careful planning and an adviser's assistance, students build a degree program designed to enhance knowledge in areas relevant to future professional work.

Students can obtain advising and courses for preprofessional studies from three undergraduate

colleges at the University. The College of Agricultural Sciences and Natural Resources offers preforestry and preveterinary medicine; the College of Architecture offers prearchitecture and preinterior design; the College of Arts and Sciences offers preparation in prechiropractic, preclinical perfusion science, precytotechnology, predental hygiene, predentistry, prelaw, premedical technology, premedicine, premortuary science, prenuclear medicine technology, preoccupational therapy, preoptometry, prepharmacy, prephysical therapy, prephysician's assistant, preradiologic technology, and preseminary/theology information.

Students can develop a prelaw program in any of UNL's undergraduate colleges, but they should choose their courses carefully beginning their freshman year.

## Nebraska Honors

Nebraska Honors provides students of proven ability and a distinguished high school record with a challenging academic experience in college. In small classes taught by dedicated faculty, honors students take an active role in class discussions with students of comparable talent. In a wide variety of honors courses students receive careful, personal attention that is made possible by the wealth of resources available at a major research institution such as UNL. The intellectual fellowship created in the classroom extends to less formal but equally stimulating discussions out of class. Honors students at UNL engage in carefully structured learning, intellectually challenging debates, and active involvement in the rich cultural activities available on campus and in the community. Nebraska Honors offers an educational experience that extends far beyond the classroom and formal instruction.

The University offers several academic options for high ability students and formally recognizes their achievements.

## The University Honors Program

The University Honors Program is a special program for which formal application is required. Students admitted to the Program have ACT composite scores in the upper 20s or above, are in the top ten percent of their high school class and, most importantly, have demonstrated a commitment to intellectual curiosity and academic excellence. Acceptance into the Program is based on a comprehensive evaluation of the student's potential by the Honors Program Faculty Committee. All the undergraduate colleges support the Program, and honors courses apply to college and major requirements. A special notation is made on the transcript and diploma upon graduation from the University Honors Program to inform graduate schools and employers of the student's superior performance. Honors Program students may request housing in the honors residence, the Neihardt Residence Center.

Students admitted to the Honors Program in their first year of college must fulfill the following requirements in order to complete the Program:

- A. Full-time student: 12 credit hours each semester (fall and spring)
- B. Cumulative GPA: 3.5

C. 24 credit hours in honors courses with a grade of B or better: to include 189H and 395H

D. Sequence:

### First and Second years:

- Complete 15 honors credit hours with a grade of B or better in the first four semesters of college work including 189H and file a *Statement of Academic Interest*.
- Complete at least 6 honors credit hours with a grade of B or better **each year** (Fall and/or Spring).

### Third and Fourth years:

- Complete 9 honors credit hours with a grade of B or better in the junior and senior years, including 395H.
- File a *Memorandum of Study* (research prospectus) prior to completing 100 hours.
- Complete at least 3 honors credit hours with a grade of B or better **each year** (Fall or Spring)
- E. Completion of an honors research or creative project (e.g., thesis).

Students admitted to the Program having earned college credits **after** high school graduation either at the University of Nebraska or another school should discuss modified requirements with the Honors Program director.

## Courses of Instruction (UHON)

Students admitted to the University Honors Program have access to all honors courses taught at UNL without additional authorization.

**NOTE: 189H. Freshman Seminar** is an honors course offered by participating academic departments. Required of all students in the University Honors Program.

**198H. Honors: University Honors Seminar** (1-6 cr, max 6) Lec. Prereq: Admission to the University Honors Program. Topic varies.

**298H. Honors: University Honors Seminar** (1-6 cr, max 6) Lec. Prereq: Admission to the University Honors Program. Topic varies.

**[IS] 395H. Honors: University Honors Seminar** (3 cr) Prereq: Admission to the University Honors Program. *Required of all students in the University Honors Program.* An interdisciplinary seminar. Topic varies.

**499H. Honors Thesis** (1-6 cr, max 6) Ind. Prereq: Good standing in the University Honors Program.

## Jeffrey S. Raikes School of Computer Science and Management

The Jeffrey S. Raikes School of Computer Science and Management develops leaders for a technology-driven world. Graduates will be professionals who understand the multiple levels of new information systems, and who become the technology sector's innovators, product developers, entrepreneurs, chief information officers, and CEOs.

The undergraduate program is designed to give students a strong well-rounded education and to give them not only the ability to create information technology applications and solutions, but also the capacity to understand the implications of

information technology for business and society. The program produces graduates with high technical proficiency as well as a strong sense of the business problems and organizational needs that information systems are intended to serve.

Students interested in learning more about the Jeffrey S. Raikes School of Computer Science and Management are encouraged to call the Program at 472-6000 or visit the Program Web site at [raikes.unl.edu](http://raikes.unl.edu).

## Courses of Instruction (RAIK)

**[IS] 181H. Honors: Foundations of Business I** (BSAD 181H) (3 cr) Lec 3, rct 2. Prereq: Good standing in the University Honors Program; admission to the Jeffrey S. Raikes School of Computer Science and Management. *First course in the Jeffrey S. Raikes School of Computer Science and Management core.* For course description, see BSAD 181H.

**(ACE 6) [ES][IS] 182H. Honors: Foundations of Business II** (BSAD 182H) (3 cr) Lec 3, rct 2. Prereq: Good standing in the University Honors Program; admission to the Jeffrey S. Raikes School of Computer Science and Management and BSAD/RAIK 181H. *Second course in the Jeffrey S. Raikes School of Computer Science and Management core.* For course description, see BSAD 182H.

**(ACE 3) [ES] 183H. Honors: Computer Problem Solving Essentials** (CSCE 183H) (4 cr) Lec 3, rct 1. Prereq: Good standing in the University Honors Program; admission to the Jeffrey S. Raikes School of Computer Science and Management. *CSCE/RAIK 183 is the first course in the Jeffrey S. Raikes School of Computer Science and Management core. CSCE/RAIK 183 has programming laboratory activities.* For course description, see CSCE 183H.

**[ES] 184H. Honors: Software Development Essentials** (CSCE 184H) (4 cr) Lec 4. Prereq: Good standing in the University Honors Program; admission to the Jeffrey S. Raikes School of Computer Science and Management; and CSCE/RAIK 183H. *CSCE/RAIK 184H is the second course in the Jeffrey S. Raikes School of Computer Science and Management core.* For course description, see CSCE 184H.

**185H. Honors: Foundations of Leadership** (BSAD 185H) (1 cr) Lec 1. Prereq: Good standing in the University Honors Program or by invitation; admission to the Jeffrey S. Raikes School of Computer Science and Management. *First course in the Jeffrey S. Raikes School of Computer Science and Management leadership core.* For course description, see BSAD 185H.

**186H. Honors: Foundations of Leadership II** (BSAD 186H) (0 cr) Lec 1. Prereq: Good standing in the University Honors Program or by invitation; admission to the Jeffrey S. Raikes School of Computer Science and Management and BSAD/RAIK 185H. *Second course in the Jeffrey S. Raikes School of Computer Science and Management leadership core.* For course description, see BSAD 186H.

**(ACE 2) 187H. Honors: Introductory Communication Seminar I** (JGEN 187H) (1 cr) Lec 1. Prereq: Good standing in the University Honors Program and admission to the Jeffrey S. Raikes School of Computer Science and Management. For course description, see JGEN 187H.

**(ACE 2) 188H. Honors: Introductory Communication Seminar II** (JGEN 188H) (2 cr) Lec 1. Prereq: Good standing in the University Honors Program; admission to the Jeffrey S. Raikes School of Computer Science and Management; JGEN/RAIK 187H. *Continuation of JGEN/RAIK 187H.* For course description, see JGEN 188H.

**[IS] 281H. Honors: Business Systems and Operations I** (BSAD 281H) (3 cr) Lec 3, rct 2. Prereq: Good standing in the University Honors Program; admission to the Jeffrey S. Raikes School of Computer Science and Management and BSAD/RAIK 182H. *Third course in the Jeffrey S. Raikes School of Computer Science and Management core.* For course description, see BSAD 281H.

(ACE 8) [IS] **282H. Honors: Business Systems and Operations II** (BSAD 282H) (3 cr) Lec 3, rct 2. Prereq: Good standing in the University Honors Program; admission to the Jeffrey S. Raikes School of Computer Science and Management and BSAD/RAIK 281H. *Fourth course in the Jeffrey S. Raikes School of Computer Science and Management core.*  
For course description, see BSAD 282H.

**283H. Honors: Foundations of Computer Science** (CSCE 283H) (3 cr) Lec 3, rct 2. Prereq: Good standing in the University Honors Program; admission to the Jeffrey S. Raikes School of Computer Science and Management; and CSCE/RAIK 184H. *CSCE/RAIK 283H is the third course in the Jeffrey S. Raikes School of Computer Science and Management core.*  
For course description, see CSCE 283H.

**284H. Honors: Foundations of Computer Systems** (CSCE 284H) (4 cr) Lec 4, rct 1. Prereq: Good standing in the University Honors Program or by invitation; admission to the Jeffrey S. Raikes School of Computer Science and Management; and CSCE/RAIK 283H. *Fourth course in the Jeffrey S. Raikes School of Computer Science and Management core.*  
For course description, see CSCE 284H.

**285H. Honors: Applications of Leadership I** (BSAD 285H) (1 cr) Lec 1. Prereq: Good standing in the University Honors Program or by invitation; admission to the Jeffrey S. Raikes School of Computer Science and Management and BSAD/RAIK 186H. *Third course in the Jeffrey S. Raikes School of Computer Science and Management leadership core.*  
For course description, see BSAD 285H.

[ES] **286H. Honors: Applications of Leadership II** (BSAD 286H) (1 cr) Lec 1. Prereq: Good standing in the University Honors Program or by invitation; admission to the Jeffrey S. Raikes School of Computer Science and Management and BSAD/RAIK 285H. *Final course in the Jeffrey S. Raikes School of Computer Science and Management leadership core.*  
For course description, see BSAD 286H.

(ACE 1) **287H. Honors: Applied Communication Seminar I** (JGEN 287H) (1 cr) Lec 1. Prereq: Good standing in the University Honors Program; admission to the Jeffrey S. Raikes School of Computer Science and Management; JGEN/RAIK 188H. For course description, see JGEN 287H.

(ACE 1) **288H. Honors: Applied Communication Seminar II** (JGEN 288H) (2 cr) Lec 1. Prereq: Good standing in the University Honors Program; admission to the Jeffrey S. Raikes School of Computer Science and Management; JGEN/RAIK 287H. *Continuation of JGEN/RAIK 287H.*  
For course description, see JGEN 288H.

**301H. Honors: RAIK Design Studio I** (CSCE, BSAD 301H) (3 cr) Lec 3, lab. Prereq: Good standing in the University Honors Program or by invitation; admission to the Jeffrey S. Raikes School of Computer Science and Management; BSAD/RAIK 282H; and CSCE/RAIK 284H. *First semester of Jeffrey S. Raikes School of Computer Science and Management design studio sequence.*

Application of Jeffrey S. Raikes School of Computer Science and Management core content in a team oriented, project management setting. Complete projects in consultation with private and public sector clients.

**302H. Honors: RAIK Design Studio II** (CSCE, BSAD 302H) (3 cr) Lec 3, lab. Prereq: Good standing in the University Honors Program or by invitation; admission to the Jeffrey S. Raikes School of Computer Science and Management; and BSAD/CSCE/RAIK 301H. *Second semester in the Jeffrey S. Raikes School of Computer Science and Management design studio sequence.*  
Application of Jeffrey S. Raikes School of Computer Science and Management core content in a team oriented, project management setting. Complete projects in consultation with private and public sector clients.

[ES][IS] **381H. Honors: Advanced Topics in Business I** (BSAD 381H) (1-3 cr, max 3) Lec 3. Prereq: Good standing in the University Honors Program or by invitation; admission to the Jeffrey S. Raikes School of Computer Science and Management and BSAD/RAIK 282H. *Fifth course in the Jeffrey S. Raikes School of Computer Science and Management core.*  
For course description, see BSAD 381H.

[IS] **382H. Honors: Advanced Topics in Business II** (BSAD 382H) (3 cr) Lec 3. Prereq: Good standing in the University Honors Program; admission to the Jeffrey S. Raikes School of

Computer Science and Management and BSAD/RAIK 381H. *Sixth course in the Jeffrey S. Raikes School of Computer Science and Management core.*  
For course description, see BSAD 382H.

**383H. Honors: Fundamentals of Software Engineering** (CSCE 383H) (3 cr) Lec 3. Prereq: Good standing in the University Honors Program; admission to the Jeffrey S. Raikes School of Computer Science and Management; CSCE/RAIK 284H. *Fifth course in the Jeffrey S. Raikes School of Computer Science and Management core.*  
For course description, see CSCE 383H.

**384H. Honors: Applied Numerical Analysis** (CSCE 384H) (3 cr) Lec 3. Prereq: Good standing in the University Honors Program; admission to the Jeffrey S. Raikes School of Computer Science and Management; and CSCE/RAIK 284H; parallel BSAD/RAIK 382H. *Sixth course in the Jeffrey S. Raikes School of Computer Science and Management core.*  
For course description, see CSCE 384H.

[IS] **401H. Honors: RAIK Design Studio III** (CSCE, BSAD 401H) (3 cr) Lec 3, lab. Prereq: Good standing in the University Honors Program; admission to the Jeffrey S. Raikes School of Computer Science and Management; and BSAD/CSCE/RAIK 302H. *Third semester in the Jeffrey S. Raikes School of Computer Science and Management design studio sequence.*  
Application of Jeffrey S. Raikes School of Computer Science and Management core content in a team oriented, project management setting. Complete projects in consultation with private and public sector clients.

(ACE 10) [IS] **402H. Honors: RAIK Design Studio IV** (CSCE, BSAD 402H) (3 cr) Lec 3, lab. Prereq: Good standing in the University Honors Program; admission to the Jeffrey S. Raikes School of Computer Science and Management; and BSAD/CSCE/RAIK 401H. *Fourth semester in the Jeffrey S. Raikes School of Computer Science and Management design studio sequence.*  
Application of Jeffrey S. Raikes School of Computer Science and Management core content in a team oriented, project management setting. Complete projects in consultation with private and public sector clients.

## Departmental Honors

Many academic departments offer honors courses and provide high-ability students with special research opportunities. Students who do not participate in the University Honors Program may request permission to register for an honors course from the course instructor or the department office. Refer to college and departmental listings in this bulletin for further information or contact the University Honors Program Office.

## Recognition of Outstanding Academic Achievement

In addition to providing qualified students with an opportunity to enrich their academic programs by taking honors courses, the University and its colleges recognize the academic achievements of all their talented and dedicated students.

### The Honors Convocation: University and Chancellor's Scholars

In April of each year, the Chancellor hosts the All-University Honors Convocation at which students who meet recognition requirements are honored as University Scholars. Special recognition is given to Chancellor's Scholars, graduating seniors who have maintained a perfect 4.0 grade point in all their collegiate work.

### The Dean's List: College Scholars

Each semester, the eight undergraduate colleges

identify students who perform at a superior level academically by recording their names on the Dean's List of the respective colleges. These College Scholars have earned at least a B+ average in a specified number of courses (the standard varies from college to college) during the semester for which they are recognized.

### Graduation with Distinction in UNL's Undergraduate Colleges

The colleges also praise their most successful students by recommending them for graduation with distinction, high distinction or highest distinction. While the manner of selection varies from college to college, all graduates with a level of distinction upon graduation have earned the respect of both the university community and the larger society they are about to join. Acknowledgment of such achievement is made publicly at commencement and, of course, is indicated on the student's diploma.

For further information about Nebraska Honors at the University of Nebraska-Lincoln contact:

Dr. Patrice Berger, Director  
University Honors Program  
University of Nebraska-Lincoln  
118 NRC  
PO Box 880659  
Lincoln, NE 68588-0659  
(402) 472-5425

## Study Abroad and Exchange Programs

International Affairs offers a wide variety of overseas study opportunities to UNL undergraduate and graduate students for a semester, academic year, semester break, or summer period. With careful planning, credit earned during study abroad can be used toward degree requirements. Most programs can be arranged to complement regular degree programs. Credit earned on UNL and UNL-approved programs is considered resident credit for degree requirement purposes. In all cases, students register at UNL which means that most existing scholarships and financial aid remain in effect. A limited number of partial scholarships, reserved for participation in study abroad programs, are available. The cost of study for many programs is similar to regular tuition, room and board costs at UNL. More than 700 UNL students participate in study abroad each year.

The benefits of study abroad are substantial in terms of: 1) strengthening international competence in this age of global interdependence; 2) developing the ability to acquire genuine competence in a foreign language; 3) expanding the participant's understanding of the world environment within which US business and government must operate; and 4) enhancing the participant's prospects for employment and graduate school.

Foreign language training is not necessary for programs in English-speaking nations. UNL also offers semester and academic year programs conducted in English at several universities in Japan, Korea, the Netherlands and other countries. Frequently, there is an opportunity to learn the local language at the same time.

Many short-term group programs, most taught in English and led by UNL faculty, are offered

through the World Campus (Summer Sessions) and during the Winterim (the semester break in the winter).

Programs most actively promoted are listed below.

**ISEP Consortium.** As a member of the International Student Exchange Program (ISEP), UNL is able to place its students in over 90 universities around the world. Countries represented in ISEP include: Argentina, Australia, Austria, Brazil, Bulgaria, Canada, Chile, China, Costa Rica, Czech Republic, Denmark, Estonia, Finland, France, French-La Reunion, French Antilles, French Guiana, Germany, Ghana, Hungary, Iceland, India, Italy, Japan, Korea, Latvia, Malta, Mexico, Netherlands, New Zealand, Nicaragua, Norway, Poland, Portugal, Puerto Rico, South Africa, Spain, Sweden, Switzerland, Thailand, United Kingdom, and Uruguay.

**Council on International Educational Exchange.** Through UNL membership in this organization, students have access to Council Study Centers worldwide as well as travel grants, work exchange and voluntary service.

**Other Consortial Programs.** As a member of the Mid American Universities-International Consortium (MAUI), UNL students have access to many overseas academic programs coordinated by U.S. partner universities in this region of the country, available at the same (in-state) cost as that paid by resident students at the institution managing the program. UNL also participates in the US-Europe exchange and is able to place its students at more than 20 leading European institutions. Students interested in electrical engineering and computer science may participate in an exchange with universities in Austria, Germany and Scotland (United Kingdom). Students interested in agro-ecology may participate in an exchange with a university in Norway. Students interested in dairy science and rural extension may participate in an exchange with universities in Canada and Mexico. Students interested in engineering may participate in an exchange with universities in Brazil.

**Affiliated Programs.** UNL is affiliated with several institutions and other providers of approved study abroad programs for summer semester or one academic year at a multitude of institutions and program sites in other countries. Affiliations include American Institute of Foreign Study (AIFS), American International Universities (AIU), AustraLearn, Butler University's Institute for Study Abroad and International Studies Abroad (ISA).

**Language Study Abroad.** New programs at UNL provide opportunities for foreign language study immersed in the native environment. A French language program, which can be coordinated with a language education component, is offered every spring semester in Besancon, France, under the supervision of a UNL faculty member. An intensive German language program, under the supervision of a UNL faculty member, is offered every spring semester in Berlin. A Spanish language program is offered every summer in Monterrey and Queretaro, Mexico, under the supervision of a UNL resident director. Spanish language programs are also offered every spring semester in Toledo, Spain,

and in San Ramon, Costa Rica. Japanese language programs are offered through Nanzan University, Sapporo University, and Senshu university, Japan. A Chinese language program is also offered every year at Peking University in Beijing, China. A Russian language program is offered during the academic year or summer in St. Petersburg, Russia. Three-week intensive language programs in Czech and Russian are taught each summer at the University of West Bohemia in Plzen, Czech Republic.

**Australia.** Victoria University, Melbourne; University of Wollongong; Monash University, Clayton, Victoria; and Southern Cross University, Lismore. Other opportunities are also available through AustraLearn.

**Belgium.** Program in survey research at the Katholieke University of Brussels.

**Brazil.** Federal University of Ceara.

**China.** Peking (Beijing) University, Beijing. A summer program taught in English, is offered in Xian.

**Costa Rica.** University of Costa Rica, San Ramon.

**Czech Republic.** Spring semester in the Czech Republic. Eastern European Studies taught in English at Palacky University (Olomouc). Eleven-week program from late March through early June. Language studies at University of West Bohemia (Plzen).

**Denmark.** Denmark's International Study Program, Copenhagen. Programs in English in general studies, environmental studies, international business, and architecture. A study program in swine production is available at Dalm Agricultural College.

**England and Scotland.** See United Kingdom.

**France.** Minimum two years college French required for programs at the Universities of Franche-Comté (Besancon), Haute Bretagne (Rennes) and the School of Architecture at Clermont-Ferrand. Summer program in agricultural economics taught in English in Dijon at Etablissement National D'Enseignement Supérieur Agronomique de Dijon (ENESAD). A business program is offered at the Ecole Supérieur de Commerce et de Management in Poitiers. A summer program in engineering, taught in English, is also available.

**Germany.** No prior German required for the intensive language program at Deutsch Institute, Deutschland, Berlin. All programs in German. Minimum two years college German required for programs at the Universities of Bayreuth, Hannover and Heidelberg. A trimester taught in English at the International University in Germany (Bruchsal) offers courses in business, communication management and information technology.

**Greece.** An academic year program is offered through College Year in Athens.

**Ireland.** A program in architecture at The Dublin Institute of Technology.

**Japan.** All programs in English but requiring intensive Japanese. Nanzan University (Nagoya); Sapporo University; Senshu University (Tokyo) -first (fall) semester.

**Korea.** Korean Studies, international business and art courses, taught in English are available at Keimyung University.

**Mexico.** Instituto Technologico y de Estudios Superiores de Monterrey (Monterrey Tec). Semester, academic year, and summer programs in intensive language (all levels) with a business option at several Monterrey Tec campuses, including Monterrey and Queretaro. Enrollment in regular (not intensive Spanish language) university courses requires two years college Spanish.

**Nepal.** SANN International College in Kathmandu.

**Netherlands.** One of the leading institutions in the world, the University of Amsterdam offers UNL students a special program in European Studies, and an advanced program in the social sciences as well as a full array of other possibilities, including Dutch language study.

**Norway.** The Norwegian University of Life Sciences (UMB in As).

**Poland.** Semester and year programs are offered at Maria Curie-Sklodowska University in Lublin and at the University of Wroclaw.

**Russia.** Summer, semester and year programs at several institutions, including Yaroslavl University and the Herzen Pedagogical University, through the American Council of Teachers of Russian.

**Spain.** UNL partnerships with Spanish institutions provide opportunities at La Universidad Castilla-La Mancha (Toledo and Cindad Real); La Fundación Ortega y Gasset (Toledo), and the University of Deusto (Bilbao). Other affiliations with AIFS, CIEE, IFS-A-Butler, ISA, and ISEP offer study abroad and exchange programs at universities in Alicante, Barcelona, Grenada, Madrid, Málaga, Murcia, Salamanca, Sevilla, Valencia, and Vigo. Language study, business and other subjects are available with some instruction English at selected sites.

**Turkey.** Bogazici University.

**United Kingdom.** Universities of Lancaster (England) and Aberdeen (Scotland), Queen Margaret (Edinburgh, Scotland), Kingston (England) and University of Bath (England). Program at the Center for Medieval and Renaissance Studies, University of Oxford, England. Spring architecture semester in London.

Information on these and other study abroad programs, as well as information on traveling and living abroad, is available in the International Affairs Resource Center, 420 University Terrace.

For more information contact:  
 Study Abroad  
 University of Nebraska–Lincoln  
 International Affairs  
 420 University Terrace  
 PO Box 880682  
 Lincoln, NE 68588-0682  
 (402) 472-5358  
 iaffairs@unl.edu  
 www.unl.edu/iaffairs

## ROTC Program

Students at the University of Nebraska–Lincoln have the opportunity to combine their academic studies with training to become an officer in Army, Navy, Marine Corps, or Air Force through the Reserve Officers Training Corps. For further information, see “Reserve Officers Training Corps” on page 363.

## Graduate Studies

The University of Nebraska–Lincoln has a rich tradition of graduate education dating back to the later nineteenth century. The University takes great pride in belonging to the prestigious Association of American Universities as a founding member and as being recognized as a Carnegie Comprehensive Doctoral (no med/vet) Institution. For more than a century, scholar-teachers at UNL have stood on the cutting edge in advancing the knowledge of their respective fields. The presence of graduate programs and the research they foster by graduate professors and students greatly enriches undergraduate education at UNL.

Students intending to continue their education after graduating from UNL may take advantage of graduate studies programs that allow seniors to take and receive credit for graduate courses prior to receiving their bachelors degrees (see “Admission of UNL Seniors” on page 23). Training graduate students who have the highest possible degree of professional competence combined with a strong sense of social responsibility continues to be a principal goal of UNL.

## Graduate Degrees Offered

**Doctoral Programs.** The University of Nebraska–Lincoln offers 38 programs leading to the degrees of doctor of philosophy (PhD), doctor of education (EdD), and doctor of musical arts (DMA).

**Educational Specialist Degree.** The educational specialist degree (EdS) is designed for persons who wish to achieve, by planned program of graduate study, proficiency beyond the level of the masters degree but who do not necessarily plan to complete the doctor of philosophy or doctor of education degrees. This advanced degree can be earned in three departments or topical areas within education.

**Masters Programs.** Graduate programs leading to the masters degree are offered by most departments and schools at UNL. Presently, 76 masters programs exist under 14 separate degree titles.

Following is a list of masters degrees granted at UNL.

- Master of Applied Science (MAS)
- Master of Architectural Engineering (MAE)
- Master of Arts (MA)
- Master of Arts for Teachers (MAT)
- Master of Business Administration (MBA)
- Master of Community & Regional Planning (MCRP)
- Master of Education (MEd)
- Master of Engineering (MEng)
- Master of Fine Arts (MFA)
- Master of Legal Studies (MLS)
- Master of Music (MM)
- Master of Professional Accountancy (MPA)
- Master of Science (MS)
- Master of Science for Teachers (MScT)

**Dual Degree Programs.** The professional program leading to the juris doctor degree is provided through the University of Nebraska College of Law. A number of dual degree programs are offered in cooperation with the College of Law and the Office of Graduate Studies. Presently, joint law/graduate degree programs exist with the departmental areas of accountancy; business administration; community and regional planning; economics; educational studies; political science; and psychology. Students must be accepted separately by the College of Law and by the Graduate College of the university.

In addition, a dual-degree program is offered by the departments of architecture (MArch) and community and regional planning (MCRP); architecture (MArch) and business (MBA); architecture (MArch) and engineering with construction concentration (MEng); and civil engineering (MS) and community and regional planning (MCRP). Students must be accepted separately by each degree program, with the knowledge and approval of the Graduate Dean. For more information, refer to the dual program descriptions in the *Graduate Studies Bulletin*.

## Graduate Majors

A major in UNL Graduate Studies is the area of academic or professional concentration, approved by the Board of Regents, in which the student chooses to qualify for the award of a graduate degree.

At the University of Nebraska–Lincoln, the following majors lead to the graduate degrees indicated.

- Accountancy–MPA
- Actuarial Science–MS
- Agricultural Economics–MS, PhD
- Agronomy–MS, PhD
- Animal Science–MS, PhD
- Anthropology–MA
- Applied Science–MAS
- Architecture–MS
- Art–MFA
- Art History–MA
- Biochemistry–MS, PhD
- Biological Sciences–MS, PhD (research in veterinary science acceptable)
- Business–MA, MBA, PhD
- Chemistry–MS, PhD
- Child, Youth and Family Studies–MS
- Classics–MA
- Communication Studies–MA, PhD
- Community and Regional Planning–MCRP
- Computer Science–MS, PhD

- Economics–MA, PhD
- Education (doctoral)
  - Educational Administration–EdD (joint program with UNO)
  - Educational Studies–EdD, PhD
  - Human Sciences–EdD, PhD
  - Psychological Studies in Education–PhD
- Education (masters and specialists)
  - Educational Administration–MA, MEd
  - Educational Psychology–MA, EdS
  - Special Education–MA, MEd
  - Special Education and Communication Disorders–EdS
  - Speech-Language Pathology and Audiology–MS
  - Teaching, Learning and Teacher Education–MA, MEd, EdS
  - Engineering–MEng, PhD
- Agricultural and Biological Systems Engineering–MS
- Architectural Engineering–MAE, MS
- Chemical Engineering–MS
- Civil Engineering–MS
- Computer Science–MS, PhD
- Construction–MS
- Electrical Engineering–MS
- Engineering Mechanics–MS
- Environmental Engineering–MS
- Industrial and Management Systems Engineering–MS
- Manufacturing Systems Engineering–MS
- Mechanical Engineering–MS
- Telecommunications Engineering–MS
- English–MA, PhD
- Entomology–MS, PhD
- Food Science and Technology–MS, PhD
- Geography–MA, PhD
- Geosciences–MS, PhD
- History–MA, PhD
- Horticulture–MS, PhD
- Integrative Biomedical Sciences–PhD
- Journalism and Mass Communications–MA
- Leadership Education–MS
- Legal Studies–MLS
- Mathematics–MA, MS, MAT, MScT, PhD
- Mechanized Systems Management–MS
- Modern Languages and Literatures–MA, PhD
- Music–MM, DMA
- Natural Resource Sciences–MS, PhD
- Nutrition–MS, PhD
- Nutrition and Health Sciences–MS
- Philosophy–MA, PhD
- Physics and Astronomy–MS, PhD
- Political Science–MA, PhD
- Psychology–MA, PhD
- Sociology–MA, PhD
- Statistics–MS, PhD
- Survey Research and Methodology–MS, PhD
- Textiles, Clothing, and Design–MA, MS
- Theatre Arts–MFA
- Environmental Health, Occupational Health and Toxicology–MS, PhD (joint program with UNMC)
- Veterinary Science–MS

Graduate degrees are also offered at the University of Nebraska at Omaha and the University of Nebraska at Kearney; and at the University of Nebraska Medical Center. These degrees are described in separate bulletins.

## Admission to the Graduate College

The Graduate College is open to graduates of all colleges of this university and to graduates of other universities and colleges of recognized standing whose requirements for graduation are substantially

the same as those in the corresponding colleges of this university. Students are selected on the basis of academic preparation, ability, and the availability of space in the desired academic program, and without regard to race, color, sex, religion, national origin, marital status, sexual orientation, disability, or age.

Acceptance for admission to a program leading to a masters degree, a doctoral degree, or an educational specialist degree or certificate is determined by the graduate committee within the academic unit and the Dean of Graduate Studies. This decision is based upon the applicant's record, experience, personal qualifications, and proposed area of study. The departmental or area graduate committees make recommendations on all degree applications, but the final admission decisions are the responsibility of the Dean of Graduate Studies. Negative admission decisions are not appealable.

The *Graduate Studies Bulletin* contains complete information about graduate studies including: programs, registration, requirements for degrees, and courses of instruction. See the bulletin on-line at <http://bulletin.unl.edu>. Copies of the 2005-07 and older bulletins are available by sending a check or money order for \$5.00 to:

University of Nebraska-Lincoln  
Graduate Studies Bulletin  
PO Box 880524  
Lincoln, NE 68588-0524

Undergraduate students who intend to continue their education after graduating from UNL are encouraged to apply online at [www.unl.edu/gradstudies](http://www.unl.edu/gradstudies).

## Admission of UNL Seniors

Seniors at UNL needing not more than 9 undergraduate credit hours to complete the bachelors degree and wishing to register for graduate credit may be granted admission to a Graduate College degree program on a provisional basis subject to receiving their baccalaureates within one calendar year. They must file an application for admission to Graduate Studies and, if admitted, their registration may count as residence in the Graduate College.

## Graduate Courses Taken by UNL Seniors

UNL seniors who have obtained in advance the approval of the Dean of Graduate Studies may enroll in up to 12 hours credit for graduate courses taken in addition to the courses necessary to complete their undergraduate work, provided that such credits are earned within the calendar year prior to receipt of the baccalaureate.

Course work taken prior to receipt of the baccalaureate may not always be accepted for transfer to other institutions as graduate work.

Seniors in the University Honors Program are encouraged to consider taking 400/800-level courses at the 800 level with the concurrence of their adviser and permission of the instructor and Dean of Graduate Studies.

Please contact the Office of Graduate Studies, 1100 Seaton Hall, prior to registering for graduate course work. Completion of a *Hold for Graduate Credit Form* is required.

## McNair Scholars Program

The McNair Scholars Program is a federally funded program designed to prepare selected UNL undergraduates for study at the doctoral level. Full-time students at UNL who are first-generation with a maximum income level established by the U.S. Department of Education, or a member of a group underrepresented in graduate education are eligible to apply for the program. In addition, scholars must be a U.S. citizen (or permanent resident), possess at least a 3.0 GPA, have completed at least 53 credit hours, and display a strong interest in receiving a Ph.D. The selection process is competitive and based on the applicant's collegiate grade point average, faculty recommendations, and personal statement.

Some of the benefits of being a McNair Scholar include: research experience under the guidance of a faculty mentor, a research stipend, interactive seminars focusing on research and graduate school, computer laptop loan, graduate application fee waivers at participating institutions, and opportunities to present at national conferences.

The McNair Scholars Program requires a two-year commitment. During the academic year, seminars are directed at developing important research skills and on preparing scholars to apply for graduate school. First year scholars also participate in the McNair Summer Research Experience, an intensive nine-week program during which the scholars conduct research and participate in seminars.

Additional details may be found at [www.unl.edu/mcnair](http://www.unl.edu/mcnair), or by calling the program office at (402) 472-5062. The McNair Scholars Program is located in the Office of Graduate Studies at 1100 Seaton Hall.

## College of Law

The University of Nebraska College of Law offers an educational program designed to provide its students with the intellectual and practical skills necessary to meet the diverse and complex challenges of a legal career. Located on East Campus, the College has a rich tradition of excellence that dates back to the College's founding over a century ago. The College is the professional home of an energetic and nationally recognized faculty, and has a comparatively small student body with a good student/faculty ratio.

The educational program here is constantly evolving as we try to respond to the rapid changes in society that lawyers confront. We change courses in the curriculum, add faculty and develop new opportunities for students to pursue their interests and participate in the life of the College. The College is committed to supporting extracurricular activities that permit students to express and expand their talents. Our students have won national awards for their excellence in moot court, client counseling and other activities.

Under special circumstances, students can enter the College after three years of undergraduate school. For further information about the College and its programs, see the College of Law Web site, <http://law.unl.edu>, or contact Assistant Dean Sarah Gloden in the College of Law Admissions Office at (402) 472-2161.

## Summer Sessions

UNL's Summer Sessions is a great way to begin, continue, or advance one's education through more than 1,400 courses offered by 70 departments. It provides options and flexibility by offering courses in a three-week pre-session, an eight week session, and two five-week sessions.

During the summer, a wide range of students will be on campus—current UNL students, new first-year students, transfer students, visiting students, and high school students. Students take summer courses to meet entrance requirements, to shorten the time to graduation, to lighten the course load required in other terms, to concentrate on areas of study that need full-time attention, and to overcome academic deficiencies.

Although Summer Sessions maintains the same high standards of quality education as the regular academic year, it does tend to be less formal, with smaller classes and more accessible instructors. For information about course offerings or enrolling during Summer Sessions contact:

Summer Sessions Office  
University of Nebraska-Lincoln  
208 Canfield Administration Building  
PO Box 880421  
Lincoln, NE 68588-0421  
(402) 472-3567  
(800) 562-1035 (toll-free)  
[summer.unl.edu](http://summer.unl.edu)

## Extended Education & Outreach

Extended Education and Outreach assists academic units in offering a variety of courses and degree programs that can be taken at any time and/or any place. Courses are offered in one or a combination of formats including online, video, print, audio, e-mail and the traditional classroom setting. This flexibility in format and scheduling offers students the convenience of taking courses at a time and place that fits their needs. Programs and courses include:

### College Independent Study

College Independent Study (CIS) courses are designed for students who want to supplement their on-campus course schedule with self-paced, independent study courses. Many students take CIS courses to ease scheduling problems, take a course that is closed on campus, take class while away from campus and/or fulfill graduation requirements. Most courses are available online. Visit [independentstudy.unl.edu](http://independentstudy.unl.edu) or call (402) 472-2175 for a full course listing or for information on how to register.

### Summer Independent Study

Summer Independent Study allows students to earn credit in a variety of subjects while traveling, working or participating in other activities throughout the summer. Students meet with instructors in the spring, study during the summer and meet with instructors again in the fall. Visit [onlineundergrad.unl.edu/summer](http://onlineundergrad.unl.edu/summer) or call (402)

472-2175 for a full course listing or for information on how to register.

## Graduate Distance Education Programs

A wide variety of graduate programs are offered at a distance to students throughout Nebraska and around the world. Following is a list of UNL programs offered at a distance:

### Masters Degrees

- Applied Science
- Architecture, Interior Design
- Business Administration
- Child, Youth and Family Studies
- Educational Administration
- Engineering, Engineering Management
- Entomology
- Journalism and Mass Communications
- Special Education and Communication Disorders
- Teaching, Learning and Teacher Education
- Textiles, Clothing and Design; Textile History or Quilt Studies

### Education Specialist Degree, Special Education (EdS), Special Education and Communication Disorders Endorsements

- Behavioral Disorders
- Deaf Education
- Early Childhood
- Visual Impairment P-12

### Doctoral Degrees

- Educational Studies (EdD, PhD)
- Educational Administration, UNL-UNO Joint Program (EdD)

### Certificate Programs

- Community College Leadership
- Educational Administration and Supervision (Six-year Certificate)
- Family Financial Planning
- Food Safety and Defense
- Legal Studies (Undergraduate)
- Logistics
- Meat Culinology™ (Undergraduate)
- School Improvement Specialist Program
- Youth Development

Visit [online.unl.edu](http://online.unl.edu) or call (402) 472-2175 for more information.

## Advanced Scholars

This unique program allows high school students to take online college-level courses from the University of Nebraska-Lincoln at significantly reduced tuition. Students have the opportunity to stay challenged throughout high school, get a head start on college credits and build skills that can ease their transition to freshman year.

Learn more about Advanced Scholars at [advancescholars.unl.edu](http://advancescholars.unl.edu).

## Other Extended Education Programs

Extended Education and Outreach also administers the UNL Independent Study High School, which offers more than 80 online and print courses for grades 9-12. Call (402) 472-2175 or visit [highschool.unl.edu](http://highschool.unl.edu) for more information.

## International Affairs

The Office of International Affairs (IA) is a service organization, reporting to the Senior Vice Chancellor for Academic Affairs. IA's mission is to support students, faculty, and administrators in all academic units as these engage in international education. Through partnerships and collaborative projects, we assist faculty, administrators, students, and staff to position UNL as a leading global campus and to enhance its visibility around the world.

International Affairs prepares students for work, citizenship, and life in a complex and fast-changing world through experiences that integrate new ideas and cultural perspectives. The work in the office engages communities on campus and around the state and contributes directly to creating a culture at the University that values diversity of ideas and people. International Affairs provides service to all Nebraska schools, business, and communities. It represents the University of Nebraska-Lincoln in multi-institutional associations, national and international organizations and agencies, and bi-national and multi-national projects related to teaching, research, and public service.

International Affairs assists more than 700 students each year to engage in academic experiences abroad for a semester, academic year, or summer session. The Office sponsors the Fulbright Program for students and faculty and assists faculty in the preparation of grants and contracts that involve study abroad and international cooperation. Staff members provide advice to exchange students from partner institutions overseas; they advise and assist students who return from study abroad via orientations for re-entry and cultural programming, offering all students the opportunity to develop skills in intercultural communication when they return to UNL. They also coordinate short-term courses offered by UNL faculty in foreign countries during the Winterim (winter break), spring break, and through the UNL World Campus over the summer. For more information, see "Study Abroad and Exchange Programs" on page 20 of this bulletin.

International Affairs provides immigration, personal, and cross-cultural advising to more than 1700 international students and scholars and their dependents from more than 100 countries. Staff members counsel international students and scholars about their new educational and cultural environment, advise them about immigration regulations, and provide activities to enhance their academic experiences at the University and integrate them into the local community. They also serve as intercultural resources for UNL faculty and staff who interact with international students and scholars. For more information, see "International Student and Scholar Services" on page 25 of this bulletin.

The Office coordinates international agreements that link UNL with other institutions of higher education around the world. International Affairs helps to negotiate and draft such agreements and memoranda of understanding and serves as the repository for the signed documents. IA serves all campus units re hiring of foreign

faculty, researchers and professional staff and helps faculty members to network with other who may have academic interest or collaborations with the same institutions or in the same country. IA acts as an advocate for academic projects that promote international education, such as The Global Classroom, which links students, face to face in real time, with students from other countries. The Office also sponsors conferences with international themes, brings distinguished international speakers to campus and serves as host for many international visitors.

The Library and resource center at International Affairs offers faculty, students, and staff, information about working, traveling, or performing voluntary service in another country. The Office also provides travel services to students and staff who go abroad.

For additional information on any of the above programs or services contact:

International Affairs  
University of Nebraska-Lincoln  
420 University Terrace  
PO Box 880682  
Lincoln, NE 68588-0682  
(402) 472-5358  
[iaffairs@unl.edu](mailto:iaffairs@unl.edu)  
[www.unl.edu/iaffairs](http://www.unl.edu/iaffairs)

## Student Services

### Admissions

Students who are interested in attending the University of Nebraska-Lincoln as undergraduates are assisted by staff members in the Office of Admissions. Information sessions, campus tours, and visits to academic departments can be arranged Monday through Friday at 9:00 a.m. and 1:00 p.m. Information about admissions, housing, financial aid, scholarships, academic programs, student life, and other areas typically of interest to prospective students is available from the Office of Admissions. To make arrangements for a visit or to obtain information about UNL, contact:

Van Brunt Visitor Center—Office of Admissions  
University of Nebraska-Lincoln  
313 N 13th Street  
PO Box 880256  
Lincoln, NE 68588-0256  
(402) 472-4887  
(800) 742-8800, ext. 4887 (toll-free)  
<http://admissions.unl.edu>

### Campus Recreation Centers

Campus Recreation Centers provide students, faculty, staff, and alumni with a variety of recreational facilities and programs. Inside the **Campus Recreation Center**, students are able to pursue their fitness and sports goals with weight training and conditioning equipment, fitness/aerobics classes, multi-purpose sport courts, swimming pool, indoor climbing wall, running track, indoor turf field, combative arts room, racquetball/squash/handball/wallyball courts, super circuit training room, injury prevention center and

massage therapy center. Lockers, saunas, showers, and towel service are available also.

At the **East Campus Activities Building**, weight training and cardiovascular equipment, fitness/aerobic classes, and multi-purpose court are available to students. Lockers, showers, towel service, and an injury prevention center are additional benefits of the facility.

Outside recreational venues are located in and around both campuses, including synthetic turf fields, tennis courts, volleyball, basketball, multi-sport areas, and a softball complex.

In addition to these facilities, patrons have the opportunity to participate in a wide array of activities, services, and events in the areas of:

- Fitness & Wellness
- Intramural Sports
- Sport Clubs
- Outdoor Recreation
- Rec & Leisure Specialty Classes
- Injury Prevention & Care
- Massage Therapy
- Youth Activities

Students enrolled at the University are automatically members of Campus Recreation and membership options are available for faculty, staff, spouses, dependents, and alumni. For information, visit the Campus Recreation Center (402/472-3467), East Campus Activities Building (402/472-2479), or online at <http://crec.unl.edu>.

## Career Services

Career Services, 230 Nebraska Union; 472-3145) is a centralized, comprehensive career center for students, alumni, faculty, and employers. Through career counseling and career exploration services, students and alumni develop career decision-making and job-search skills and strategies. Working with academic colleges, Career Services offers students self-knowledge and employment options to prepare them for the workforce and graduate or professional school. Career Services maintains an extensive website with information and resources at [www.unl.edu/careers](http://www.unl.edu/careers).

## Career Decisions

Career Services provides personal assistance to students undecided about a major or career. Students can visit with a career counselor regarding interests and skills, take a career assessment, and access career information and resources in the Career Resource Center, 225 Nebraska Union, or on-line at [www.unl.edu/careers](http://www.unl.edu/careers).

## Student Employment and Internships

Career Services helps students gain experience through part-time jobs and internships. A wide variety of part-time jobs both on and off campus are listed on-line at [www.unl.edu/careers/seic](http://www.unl.edu/careers/seic) and on the student job boards, 2nd Floor Nebraska Union. Career Services staff help students identify and pursue internship opportunities related to their career goals. A variety of directories are available in print at 225 Nebraska Union and on-line at [www.unl.edu/careers](http://www.unl.edu/careers) as well as Husker

Hire Link, a free on-line job search service connecting students to employers.

## Job Seeking Services

Career Services helps students prepare for and conduct successful job searches. Career counselors review resumes and cover letters, conduct mock interviews, and provide advice and information about accepting, declining and negotiating job offers. Husker Hire Link, a free on-line job search service connects students with employers seeking interns and full-time employees. Students can post resumes, search and apply for jobs, and request on-campus interviews. Several career fairs are also held throughout the year. More information and a variety of resources are available on-line at [www.unl.edu/careers](http://www.unl.edu/careers).

## Career Resource Center

The Career Resource Center is staffed full-time by resource specialists who can direct students to print and on-line resources related to careers, employers, jobs and internships, or graduate and professional school. A small computer lab is available for conducting on-line research or writing resumes and cover letters.

## Counseling and Psychological Services (CAPS)

Counseling, psychotherapy, psychiatric services, and psychological evaluation are available in CAPS at the University Health Center, room 213. The professional staff offers confidential counseling for students across a wide spectrum of issues including personal/academic concerns, anxiety and depression, life planning, diversity issues, relationships, eating disorders, sexual identity, communication skills, and stress management/biofeedback. Workshops and support groups are offered throughout the year in these and other areas. Assessment for ADD and learning disabilities is also offered. A full range of psychiatric services is available within CAPS, including assessment, medication, and follow-up. For additional information, go to our Web site at [unl.edu/students/CAPS](http://www.unl.edu/students/CAPS).

## Daily Nebraskan

The *Daily Nebraskan*, a national prize-winning student newspaper, is the prominent student voice on the University of Nebraska–Lincoln campus. The *Daily Nebraskan* is staffed by students in reporting, editing, photography, art and graphic design, page design, multimedia, and advertising sales positions. The governance of the state's fifth-largest daily newspaper is delegated by the NU Board of Regents to the Publications Board, a group consisting of students, faculty members, and professional journalists.

Any student is eligible to apply for a position on the *Daily Nebraskan* staff, which changes each semester. All employees are compensated for their work in the form of salary and experience.

For additional information, contact:

Daily Nebraskan  
20 Nebraska Union  
1400 R Street  
Lincoln, NE 68588-0448  
dn@unl.edu  
DailyNebraskan.com

## International Student and Scholar Services

The University of Nebraska–Lincoln is host to about 1,700 international students and scholars and their dependents from around the world. These students and scholars represent more than 100 countries.

International Student and Scholar Services assists these students and scholars with cultural, immigration, financial, health and personal issues and provides activities and programming such as the Lincoln International Networking Community (LINC), which matches new international students with mentors. In addition, international student organizations at UNL, representing all areas of the world, provide events such as ethnic banquets and the International Food Bazaar.

International Student and Scholar Services works to enhance the academic experience of international students and scholars at the University of Nebraska–Lincoln and to provide opportunities for the campus, city and state to gain from their presence on campus.

For additional information, contact:

Office of International Affairs  
International Student and Scholar Services  
University of Nebraska–Lincoln  
420 University Terrace  
Lincoln, NE 68588-0324  
(402) 472-5358  
iss@unl.edu  
[www.unl.edu/iaffairs](http://www.unl.edu/iaffairs)

## Office of TRIO Programs

**Student Support Services (SSS).** To help students fulfill their academic potential, the Office of TRIO Programs sponsors the SSS Program. The SSS program offers academic support in the form of tutoring, counseling, study skills instruction, personalized courses, and financial planning services. To qualify for these services, students must demonstrate an educational need and qualify as either 1) low-income, 2) first-generation (neither parent has a four-year college degree), or 3) disabled. Students at UNL who are US citizens or permanent residents are eligible to apply to the SSS program. Applications are available at the SSS office.

The SSS Program offers several courses for credit each semester to help students develop their educational skills. These courses include small-group sections of BIOS 101 (general biology), ENGL 150 and 151 (written composition courses), EDPS 150 (a career course), EDPS 327 (a human relations course), and MATH 100A and 101 (slower-paced sections of intermediate and college algebra).

In addition to the SSS course offerings, the program provides individual and group tutoring in all

subjects and the opportunity for students to work together in study groups in a tutoring lab in the SSS office. Counseling is available for cultural, personal, financial, and career concerns. The program also provides academic monitoring and helps students develop leadership skills and become involved in organizations and cultural activities on campus.

The Office of TRIO Programs also houses three pre-college programs—Upward Bound, Upward Bound Math/Science, and Educational Talent Search—that work in selected middle and high schools within the Lincoln Public Schools. A second UNL Upward Bound program is located in Norfolk, Nebraska and serves students in Norfolk, Madison, Lyons/Decatur, and Winnebago. These Projects provide fundamental support for low-income, first-generation students to prepare for college.

## Nebraska Unions

The Nebraska Unions on City and East Campus are full-service community centers designed for use by everyone at UNL—students, faculty, staff, alumni, and visitors. The Unions are financed from student fees, University subsidies, and income generated through the various service enterprises

Nebraska Union on City Campus offers study and television lounges, offices for student organizations, meeting rooms, dining areas with complete food services (including banquet catering and food court), art gallery, bakery, bank, game room, bookstore, copy services, 24-hour computer lab, and the student employment and Career Services offices.

Nebraska East Union on East Campus offers similar services to those available in the Nebraska Union on City Campus, including an expanded game room and bowling alley.

## Services for Students with Disabilities

The Services for Students with Disabilities Office, 132 Canfield Administration Building, provides various accommodations to qualified students, such as test accommodations, classroom notes, electronic textbooks or taped textbooks, captioning services, sign language, interpreters, brailled materials, assistance with accessible classroom identification, housing issues and other needed accommodations. These services are offered to facilitate the integration of students with disabilities into the mainstream of University academic life. Special parking arrangements may be made directly through Parking Services.

Qualified students are encouraged to contact the Services for Students with Disabilities Office before arriving on campus so their special needs can be anticipated, discussed, and appropriate arrangements made. Students can call (402) 472-3787.

## Student Government

By virtue of enrolling in the University, students are members of UNL's student government organization, the Association of Students of the University of Nebraska (ASUN). Elections for major officers and ASUN senators are held each spring.

The elected president serves as member of the University of Nebraska Board of Regents.

ASUN functions as the primary representative body for UNL students. ASUN takes student concerns to faculty committees, college and University administration, the Board of Regents, state legislative groups, and the people of Nebraska.

Much of ASUN's work is conducted by committees and commissions open to any interested UNL students. ASUN is also the vehicle for appointing students to various University committees and advisory boards. The ASUN office is located in 136 Nebraska Union. For more information, refer to their Web site at [www.unl.edu/asun](http://www.unl.edu/asun).

**ASUN Student Legal Services Center.** Student government also sponsors the ASUN Student Legal Services Center, a prepaid legal advising, counseling, and limited litigation service funded by student fees. The Center is staffed by two full-time attorneys who are available to assist currently enrolled students. The service is free of charge; all discussions and files are confidential and are not a part of any University record.

The Center is a limited legal program and does not handle all types of legal cases. Its philosophy is to provide legal help for the greatest possible number of students within the limited time and resources available. The types of cases in which the attorney may represent students include those most often affecting students, such as: landlord-tenant relations, consumer complaints, traffic offenses, and assistance in small claims cases. The Center is located in 335 Nebraska Union, (402) 472-3350.

**ASUN NU On Wheels.** Student government sponsors the NU on Wheels program. The mission of NU on Wheels is to save lives and prevent injuries by offering students a safe alternative to drunken driving and other threatening situations. For a safe ride home, NU on Wheels operates between the hours of 7:00 p.m. to 7:00 a.m. seven days a week during the Fall and Spring semesters, excluding breaks when the University is closed.

**Off Campus Housing.** Student government provides information about housing available to students. See our Web site at [www.unl.edu/asun](http://www.unl.edu/asun) and click on Commuter and Student Services or stop by the office at 136 Nebraska Union, City Campus, or call 472-2652.

## Student Involvement

As an essential partner in the educational experience, Student Involvement provides co-curricular opportunities that complete the academic process, foster student development and prepare all students for life beyond the university. Offices are located at 200 Nebraska Union and 300 Nebraska East Union. Information about programs and services is also available on our Web site at [si.unl.edu](http://si.unl.edu).

**E-Involvement.** An on-line service to help students locate the 400 recognized student organizations (RSOs) at the university. Students can search a database of RSOs based on their interests, can submit contact information from RSO officers, and can obtain information about

student organizations on campus. From our Web site, simply click "Find a Student Organization."

**Gender Related Programs.** The Women's Center, located at 340 Nebraska Union, offers a resource library and educational programming concerned with the changing roles of women and men in today's society. The Women's Center provides ongoing discussions and support groups organized to meet the needs of diverse groups of students.

**GLBT and Ally Programs and Services.** A "safe space" for Gay, Lesbian, Bisexual, Transgender and Ally students, that provides relevant resources and referral, delivers "Safe Space" educational training for the university community, supports and provides follow-up services to those who have experienced discrimination/harassment based on sexual orientation/gender identity/expression and serves as a resource for the Queer Student Alliance (the GLBT and Ally student organization).

**Leadership Development.** The Leadership Development program coordinates several initiatives designed to develop and/or enhance leadership skills among UNL students, including but not limited to Emerging Leaders, Chancellor's Leadership Class, Leadership Team, and intensive leadership retreats.

**Nformation.** Nformation is a weekly email news service for UNL undergraduate and graduate students. The formatted list of announcements includes information about upcoming campus events, awards/scholarship opportunities and policy changes. Anyone wishing to submit an item for the student e-news service can complete the form on-line at [www.unl.edu/nformation](http://www.unl.edu/nformation).

**NU Directions.** Opportunities for students to work with the campus-community coalition to reduce high-risk drinking include serving on various workgroups and organizing events.

**Service Learning.** Opportunities for students to engage in challenging, important and rewarding service-learning and volunteer service are available. Students can easily search through a Web-based database to find service opportunities to meet their interests and talents. Staff members assist students to organize service-learning projects and alternative breaks for their student organizations, residence halls or Greek chapters. Additionally, students can contact staff regarding service-learning courses and research opportunities.

**Student Organization and Activity Resources (SOAR).** Increases students' awareness by providing student organization services and advising to groups and individuals. SOAR encourages development of RSOs, assists with event planning and registration consultation services, and provides support to faculty/staff advisers. Currently, there are over 350 officially Recognized Student Organizations (RSOs) in which students may participate.

**University Program Council.** The University Program Council (UPC), located in 134 Nebraska Union, is a volunteer Recognized Student Organization designed to address the co-curricular,

social, recreational, cultural, and educational needs of the campus. The UPC acts as the executive body responsible for the implementation of program activities funded by University Programs Facilities Fees (UPFF) granted to the UPC.

## Office of Student Assistance

The Office of Student Assistance (formerly Student Ombuds Services) is available to students for the purpose of hearing, investigating and advising on issues from personal problems to matters of University policy and procedure. The Office of Student Assistance is located in the Office of the Vice Chancellor for Student Affairs, 106 Canfield Administration Building, (402) 472-3755, or visit the Web site for information: <http://stuafs.unl.edu/ombuds/>.

## University Bookstores

The University Bookstores are owned by the University and operated by the Follett Higher Education Group for your convenience and are located in the lower level of the Nebraska Union on City Campus and the lobby level of the Nebraska East Union on East Campus. Both bookstores carry textbooks and school supplies, gift items, sundries, University memorabilia, and Club Red clothing. Both bookstores can save you money through the used textbook program, which sells and buys back used books for University courses. The University Bookstore also provides you free Textbook Reservation—a program which reserves all your textbooks when you approve our access to your class registration.

## University Health Center

The mission of the University Health Center (UHC) is to provide quality healthcare and education that promotes health and well-being and supports the educational purposes of UNL. To support and promote a healthy university community, the UHC is a fully accredited primary care facility conveniently located at 1500 U Street. UNL students have access to: a primary care medical clinic; specialist evaluations; allergy injections; dermatology; immunization and international travel; optometry; laboratory; pharmacy; physical therapy; radiology; health education; counseling and psychology services; and dental clinic.

Students registered for seven or more hours during fall and spring semesters (four or more hours during summer sessions) are automatically assessed a facility fee which permits unlimited visits with primary care providers at no additional charge. Students enrolled in fewer than seven hours (fewer than four hours during summer sessions) may elect to pay the facility fee or be seen at the UHC on a fee-for-service basis. All lab tests, x-rays, physical therapy and pharmacy products carry charges that are reduced for students who have paid the facility fee.

All new and re-entering students are required by the University to submit proof of two rubeola measles/MMR immunizations or positive rubeola lab result prior to their first enrollment. In addition,

international students are required to have a test for tuberculosis done at the UHC when they arrive on campus. If your tuberculosis test is positive, you may be required to have an x-ray at the UHC and see a UHC physician. Rubeola immunization and tuberculosis testing are available for a fee at the UHC.

All UNL students are encouraged to carry health insurance to help cover the costs of unanticipated medical care. Students are advised to check their health insurance policies prior to enrollment to ensure that adequate health care benefits are available in the Lincoln area during their attendance at UNL. A health insurance plan for UNL students and dependents is available through the UHC for those who wish to obtain or increase their health insurance coverage. For information about the student health insurance plan or the participation status of UHC providers in managed care plans, please call the insurance coordinator at (402) 472-7507.

### Campus Address:

University Health Center  
1500 U Street  
PO Box 880618  
Lincoln, NE 68588-0618  
(402) 472-5000 Appointments  
(402) 472-8010 Fax  
[health.unl.edu](http://health.unl.edu)

## University Housing

The University's housing options reflect UNL's diversity. Students can choose to live in traditional residence halls, apartment-style residence halls, fraternities and sororities, or cooperatives. Single students, under the age of 19 on the first day of classes fall semester, must live on campus, or within 30 miles of campus with an adult relative (parental permission required).

### Traditional Residence Halls

All traditional residence hall contracts include full-service dining with a choice of either a 7-days-a-week or 5-days-a-week "unlimited access" meal plan. The "unlimited access" meal plan provides access to dining services as many times a day as the student wishes, whenever the dining service is open. Some dining service facilities include market-style dining, display cooking, and continuous serving hours, until 8:30 p.m. daily. All halls also offer areas for recreation, laundry, social lounges, a computer lab within the complex, and front desk service. Most halls are coeducational, and offer mostly double and "super double" resident rooms. Single rooms are available in one residence hall designated for upperclass student occupancy.

Resident rooms are fully-furnished and include the following: a refrigerator/freezer or MicroFridge®, and for each student, a bed and pillow, a study desk and chair, a dresser and a closet. Rooms include Internet access for each student, and cable TV hookup at no additional charge to the student. Some halls include a loftable/adjustable bed as part of the cost of the room; in other halls, students may rent a loft bed if they wish.

The University's residence halls also offer students several special programs that enrich living and academic experiences at UNL. These

opportunities currently include residence halls specifically for upperclass students and special "Learning Community" floors for freshmen students in programs such as business, engineering, music and journalism. Students can apply for these and other optional living arrangements by indicating their preference on their housing contract.

Two residence halls, Selleck (on City Campus) and Fedde (on East Campus), offer 12-month occupancy, which includes summers and holidays. In addition, some residence halls are open during the academic year vacation periods at Thanksgiving, winter break and spring break.

Students should apply for housing in residence halls as soon as possible after receiving their housing contract, in order to have the best chance of being assigned to their preferred residence hall. For new freshmen, Housing contracts are sent within two weeks after the student has submitted his/her enrollment deposit. New transfer students will receive a Housing packet within four-six weeks after being admitted.

### Apartment-Style Halls

University Housing offers upperclass or graduate students the opportunity to live in one of its two apartment-style halls, the Courtyards or the Village. Both apartment-style halls feature two-bedroom/one bath and four-bedroom/two bath units. Suites include kitchens with all appliances (stove/oven, refrigerator/freezer with icemaker, dishwasher, and microwave). Each suite includes a living room with a sofa, chair, entertainment center table and end table. Most units include a large walk-in style storage closet and large entry-way coat closet. Some units feature a balcony, French balcony or patio (first floor units). Each student has a private bedroom furnished with a loftable/adjustable bed, desk, dresser, adjustable-height desk chair, and closet. Utilities are included, along with high-speed Internet access and Cable TV access in each student room. Bathrooms are cleaned by residence hall staff every other week. Each floor includes laundry areas, social lounges and study lounges, and both halls include front desk service. Nine and 12-month contracts are available. Apartment-style contracts include two meals a week at one of the Housing dining services, and students have the option to purchase a full meal plan at a 5% discount.

For information contact:

Division of University Housing  
University of Nebraska—Lincoln  
PO Box 880622  
Lincoln, NE 68588-0622  
(402) 472-3561  
(800) 742-8800 (toll-free)  
[housing@unl.edu](mailto:housing@unl.edu)  
[www.unl.edu/housing](http://www.unl.edu/housing)

### Fraternities and Sororities

The Greek system at the University of Nebraska has more than 100 years of tradition. Students choosing to reside in Greek living units have a home away from home while they attend college. Typically 60-95 chapter members occupy each Greek living unit and all have a live-in house director. Each Greek house is an approved

University living unit. Nebraska's Greek living units are located on or within close proximity to City or East Campus. For many students the small-group atmosphere within the larger campus community that Greek living provides is a more comfortable environment. Because of space limitations, first-year sorority members live in NU residence halls, while fraternities have room to house their first-year members.

Any first-year student who has been admitted to UNL is eligible to participate in fraternity or sorority recruitment. Students who have been admitted to UNL may access the recruitment application via their WAM account at <http://wam.unl.edu>. Upper-class students who have a least a 2.5 cumulative grade point average are also eligible to participate in recruitment. For information contact:

Office of Greek Affairs  
University of Nebraska–Lincoln  
332 Nebraska Union  
PO Box 880458  
Lincoln, NE 68588-0458  
(402) 472-2582  
[www.unl.edu/greek/](http://www.unl.edu/greek/)

## Family Housing

The University operates 153 unfurnished one-, two-, and three-bedroom apartments for married people and single parents registered as full-time students. Since there may be a waiting period, students may apply for this housing alternative prior to their marriages. For information, contact:

Division of University Housing  
University of Nebraska–Lincoln  
PO Box 880622  
Lincoln, NE 68588-0622  
(402) 472-3561  
(800) 742-8800 (toll-free)

## Other Approved On-campus Housing

Love Hall, located on UNL's East Campus, is a cooperative for women students. Students can enjoy academic-year housing and meals at about half the cost of the residence halls.

Husker Hall is a living unit located between UNL's City and East Campuses. Year-round housing is available for graduate students, upperclass students, and nontraditional students. A kitchen area is available for student use.

## Off-campus Housing

Many of the University's students live in off-campus housing throughout the Lincoln area. The city has an abundance of apartments; students usually do not have difficulty finding off-campus housing in their price range—especially if they make arrangements before arriving in Lincoln for the start of the semester.

To live off campus, single students must be 19 years of age on the first day of classes, Fall semester, or live with an adult relative and have parental permission.

## Resources and Facilities

### Alumni Association

The University of Nebraska–Lincoln Alumni Association demonstrates a long-standing commitment to the University and its community. Today, membership exceeds 25,000 alumni and friends.

The Association sponsors a wide variety of programs and services to meet the diverse needs of Nebraska alumni. The Association produces several publications to keep alumni informed of university issues and activities and alumni events and services. The Association connects alumni and friends of the University while promoting the University's academic research and service roles. It is a separate entity from the NU Foundation, and each serves the University in valuable but unique ways.

Student activities supported by the Alumni Association include the Scarlet Guard, Husker Handbook, "What Not to Wear" event, Homecoming Pep Rally, Finals Study Break, Masters Week, official class ring, Senior Send-off, Cather Circle mentoring program, leadership awards and scholarships. Alumni interact with students through mentoring programs, internship/externship opportunities, and student recruitment activities.

The Wick Alumni Center, 1520 R Street, is the Association's permanent home. Constructed through the generosity of NU alumni, this award-winning building serves as a center for conferences, meetings and performances, as well as a popular site for weddings. Students are encouraged to visit. The Association also owns and operates the Nebraska Champions Club across from Memorial Stadium.

## Athletic Department

As a member of the Big 12 Conference, the University of Nebraska–Lincoln fields and hosts many of the nation's finest NCAA teams.

The University's Athletic Department fields men's teams in baseball, basketball, cross country, football, golf, gymnastics, tennis, track and field, and wrestling.

The Athletic Department fields women's teams in basketball, bowling, cross country, golf, gymnastics, rifle, softball, swimming and diving, tennis, track and field, soccer and volleyball.

The Athletic Department maintains excellent sports facilities, among the best in the nation. UNL's football stadium seats more than 80,000 fans after the completion of a \$50 million improvement project. Winter sports teams compete in the Bob Devaney Sports Center. The Center, a five-acre complex, contains a 13,500-seat basketball arena; an indoor hydraulic track with seating for 5,000; a 10-lane swimming pool with separate diving well; and gymnastics and wrestling facilities. The University has one of the largest and most modern strength and conditioning facilities in the country, and a 5,000-seat outdoor track stadium. New baseball and softball complexes were unveiled in 2002. Hawks Field seats 4,500 and offers 16 suites. Bowlin Stadium seats 2,500 fans. Volleyball is home to the Coliseum which seats

4,200. The Athletic Department has training table and study areas for men's and women's athletics.

In addition, Hawks Championship Center and the Cook Pavilion and George B. Cook Field, each containing approximately 78,000 square feet, provide sheltered practice spaces for Nebraska football and other intercollegiate sports. Cook Pavilion also serve campus recreational needs by making available indoor space for recreational field sports, jogging, and fitness programs.

## Centers for the Performing Arts

**Kimball Recital Hall.** Kimball Recital Hall, on the University's City Campus at 11th & R Streets, serves as the home for UNL School of Music's Concerts and Recitals by faculty, students and guest artists. Kimball Recital Hall is acoustically outstanding, and with only 850 seats, is one of the finest concert halls in the Midwest. It is located adjacent to Westbrook Music Building, home of the UNL School of Music. Performances include the Faculty Recital Series, and other faculty performances, including recitals and chamber music ensembles. Student performances include the UNL Orchestra, Wind Ensemble, Concert Band, University Singers and Jazz Ensemble among others. The School of Music's Opera Program offers a repertoire of operas. Kimball Recital Hall also hosts several performances each year sponsored by the Lied Center for Performing Arts including chamber music concerts and performances especially suited to Kimball's size.

**Lied Center for Performing Arts.** The Lied Center for Performing Arts is Nebraska's home for the performing arts. Each year over 200,000 people from across Nebraska and neighboring states attend performances at this region's premier performing arts facility. Major regional, national and international artist events are featured. Lied Center programming includes Broadway productions, symphonies, dance, theater and pop entertainers.

The Lied Center is located on the corner of 12th and Q Streets on the University of Nebraska–Lincoln City Campus. The Lied Center Main Stage seats 2,276. It also includes a scene shop for set construction, dressing rooms, and the Lied Center's Johnny Carson Theater, a 200-seat flexible-space, Black-Box theater.

The Lied Center provides a valuable educational resource for University instructional programs. It provides an additional on-campus facility for campus organizations, student and faculty performances.

**Temple Building.** Home of University Theatre at UNL since 1907, Temple houses theatre classes as well as the administrative offices and performance spaces of the Johnny Carson School of Theatre and Film and the Nebraska Repertory Theatre. University Theatre produces five to six major events and four to six Theatrix productions each year in the facility's three theatres; Howell, Studio, and Lab.

The Nebraska Repertory Theatre is the professional wing of the School. Founded in 1968, Nebraska Repertory Theatre signed an Actors' Equity Association contract in 1988 and continues to operate under an U/RTA agreement. Nebraska

Repertory Theatre stages performances of seven award-winning plays July to December in Howell and Studio Theatres.

The Temple Building completed an extensive renovation and addition to its facilities in 2007.

Film and new media classes are offered in the Mary Riepma Ross Media Arts Center adjacent to the Temple Building.

**Devaney Sports Center.** With its 13,500-seat arena, the Bob Devaney Sports Center hosts performances by national recording stars. These performances are usually sponsored by the University Program Council or are part of the Nebraska State Fair. A \$7.9 million renovation was completed in 1999, adding fan amenities including replay boards and a "Walk of Fame".

## Information Services

Computing, networking and telecommunications services are provided to the university community by Information Services (IS). These services touch all students, whether they reside on campus, commute to the university or are enrolled in a distance education program.

When you register for classes online, when you work in a computer lab in your residence hall, when you stop at an email station in the Union between classes, when you log onto myUNL to find out this week's homework assignment, when you download the latest anti-virus software free of charge—even when you phone home to talk to your parents—you are utilizing services or facilities provided by IS.

Students who need assistance with computer problems or information about our services can reach the IS Computer Help Center from 7:30 a.m. to 11:30 p.m., seven days a week by calling (866) 472-3970, toll free.

## Libraries

The University's library system and services are extensive, including more than 3,170,000 volumes and 28,000 active periodicals and serials. In addition to needed library resources, UNL's libraries provide group study spaces, multi-media equipment and snack areas.

The University Libraries and the Marvin and Virginia Schmid Law Library offer both in-house and remote access to a wide variety of electronic resources. The Libraries Web site, <http://iris.unl.edu>, currently includes the Libraries electronic catalog, general and specialized journal indexes, full-text electronic journals, image databases, and a host of Internet resources. Many library services such as reference and research assistance are offered electronically to supplement traditional services.

Love Memorial Library, the largest library facility on campus, holds 1,600,000 volumes.

The library system also operates more specialized facilities on both UNL campuses. On City Campus, these include the architecture, engineering, geology, mathematics, and music libraries. The Schmid Law Library is located on the University's East Campus. C.Y. Thompson Library, also on the East Campus, is the largest branch library in the UNL system. Its collection emphasizes

materials related to agriculture, home economics, and dentistry.

## Museums and Galleries

**Sheldon Museum of Art.** Designed by internationally acclaimed architect Philip Johnson. Sheldon Museum of Art is one of the nation's most respected university art museums. The Sheldon permanent collections of more than 12,000 objects document the development of American art from the eighteenth century to the present, with a focus on the twentieth century. The collection includes works by Bierstadt, O'Keeffe, Hopper and Hofmann. The Sheldon offers special exhibitions drawn from the permanent collection and other museums from around the world. The Sheldon Sculpture Garden provides a historical representation of twentieth century American sculpture and contains more than 30 key examples by American artists including the monumental work, *Torn Notebook*, by Claes Oldenburg and Coosje van Bruggen.

Sheldon's educational and outreach programming includes an active docent and tour program; annual statewide touring exhibition program; visiting artists and scholars who present public lectures, symposia, Sheldon Museum Store, and presentations and other educational activities related to exhibitions or the permanent collection.

Sheldon can be found at 12th and R Streets and on the Web at [sheldon.unl.edu](http://sheldon.unl.edu).

**Great Plains Art Museum.** The Great Plains Art Museum is located at 1155 Q Street in the Hewitt Place building. Administered by the Center for Great Plains Studies, it is a unique regional art collection that features art of the American West and Great Plains. It consists of over 3,500 bronze sculptures, paintings, drawings, prints, and photographs including works by prominent artists such as Bierstadt, Borglum, Kauba, Jackson, Remington, and Russell, and twentieth century Native American painters. The gallery exhibits parts of the collection, hosts traveling exhibitions, and offers programs and tours pertaining to the exhibitions. The collection also houses a 7,500-volume library of Western Americana and Canadian books.

**University of Nebraska State Museum.** The University of Nebraska State Museum contains over 13 million objects and specimens in its research collections, located primarily in Nebraska Hall. The museum also exhibits interpretative displays of Nebraska's geologic, natural, and cultural history in Morrill Hall. Class tours may be arranged at either facility.

The research collections include the divisions of anthropology, botany, entomology, invertebrate paleontology, parasitology, vertebrate paleontology, and zoology. The collections are available for undergraduate study under the supervision of a curator or other faculty member. Students may participate in the curation of the collection under the supervision of a curator or collections manager.

Morrill Hall is world famous for its 12 mounted skeletons of elephants and their close fossil relatives in Elephant Hall. Archie, a full-size bronze

mammoth modeled after the largest Nebraska mammoth (*Mammuthus columbi*) discovered, is presented in the Lloyd G. Tanner Plaza at the entrance to Morrill Hall. Other galleries include: Mesozoic Gallery, interactive exhibits and specimens on the Age of Dinosaurs; Nomads of the Plains, indigenous people and cultures of the Great Plains; Cooper Gallery, temporary exhibits; Toren Gallery of Ancient Life; Explore Evolution featuring current research; Hall of Nebraska Wildlife, featuring natural habitats, plants, and animals; the Ralph Mueller Planetarium, with a full-dome projection system; The Dr. Paul and Betty Marx Science Discovery Center, a hands-on natural science discovery center; and science-related loan materials and in-service opportunities. The Museum also has displays of fossil mammals, dinosaurs, and minerals.

**Lentz Center for Asian Culture.** The Lentz Center for Asian Culture, located in Hewitt Place, Lower Level, 1155 Q Street, is dedicated to the enrichment of knowledge and understanding of Asian art and culture. Through exhibitions of Asian art and artifacts, presentations and cultural activities, the Center provides a unique opportunity for comprehension of the rich diversity and long history of Asian cultures.

The permanent collection of the Lentz Center includes jade and ivory carvings, Tibetan ritual objects, Bhutanese textiles and jewelry, Chinese painting, musical instruments, ceramics, glass, Japanese prints, and other items that reveal facets of traditional Asian civilizations. There are four temporary exhibitions a year. These exhibitions are accompanied by other cultural and educational events concerning Asia, including music programs and lectures.

## University of Nebraska Press

The University of Nebraska Press is a nonprofit book publisher and the state's chief publisher of scholarly and general interest books. All new scholarly books published by the press are refereed by scholars in appropriate fields and approved by the Press Advisory Board. Publishing 200 new books a year, the press is the second-largest public university press in the nation. In the past three years, it has won more than thirty awards for book content and design. Its books are sold and read throughout the world.

The University of Nebraska Press serves two constituencies. One is the world of scholarship at large, where the press represents the best aspirations of the University by publishing important research by scholars, wherever they may be, in fields in which the press has become well known nationally and internationally. Some of these fields are Native American studies, literary studies, literary nonfiction and fiction, translations, military history, Jewish studies, sports, agriculture, and environmental studies. The other constituency is serious readers of the American West. To them the press brings understanding of both the past and the present, ranging from prehistoric settlement on the Great Plains to Nebraska politics and government to the history, literature, and culture of America west of the Mississippi River.

The press publishes works by such notable Nebraska writers as Willa Cather, Mari Sandoz, Ted Kooser, Wright Morris, Loren Eiseley, and John Neihardt, as well as by luminaries such as Tolstoy, Zola, and Henry James. Many books published by the University of Nebraska Press are available in quality trade paperback format under the Bison Books imprint. The Bison Books line is recognized widely as one of the first paperback publishing programs established by a university press.

## University of Nebraska–Lincoln Television

The University of Nebraska Television station KUON-TV is the flagship station for NET Television and forms the core of a statewide public television network. NET Television represents a partnership between University of Nebraska Television and the Nebraska Educational Telecommunications Commission which provides public television service throughout the state via nine transmitters, as well as the statewide public radio network.

NET operates from one of the nation's finest telecommunications facilities—the Terry M. Carpenter Nebraska Educational Telecommunications Center. Located on the East Campus, University of Nebraska Television is recognized nationally for its quality programs produced for Nebraska, regional and national audiences. It is also a nationally recognized leader and innovator in distance learning, interactive media and other content delivery systems.

NET supports and extends the programs, services and influence of the University on a state and national basis. It also supports the University's educational mission and provides technological support in a number of areas.

Staff members from NET teach courses to UNL students and work with faculty of the UNL College of Journalism and Mass Communications on a variety of broadcasting projects. An internship program for students of that college and the Hixon-Lied College of Fine and Performing Arts offers students hands-on experience in studio television and electronic field production.

NET productions may focus on UNL activities (such as a program for the national Nova series on UNL's ANDRILL project) or feature UNL faculty as advisers or on-camera experts. NET's interactive media professionals work in conjunction with University personnel to provide opportunities and resources that benefit UNL students, staff and faculty as well as those beyond UNL.

## Research and Service Activities

Research plays an integral role in the mission of the University of Nebraska–Lincoln. By encouraging the discovery of new knowledge and supporting scholarly initiative in all fields of study, the University constantly brings innovative ideas, techniques, and perspectives into UNL classrooms. In addition, research done by University scientists and scholars directly supports UNL's extensive public service programs.

Major research and service activities at the University include those listed below. Detailed

descriptions can be found in the individual college sections as noted.

### Agricultural Research Division

See "Agricultural Research Division" on page 39.

### Atomic, Molecular and Optical Physics Laboratory

See "Atomic, Molecular, Optical, and Plasma Physics Laboratory" on page 128.

### Behlen Observatory

See "Behlen Observatory" on page 128.

### Bureau of Sociological Research

See "Bureau of Sociological Research" on page 128.

### Buros Center for Testing

See "Buros Center for Testing" on page 248.

### Cedar Point Biological Station

See "Cedar Point Biological Station" on page 128.

### Center for Advanced Land Management Information Technologies (CALMIT)

See "Center for Advanced Land Management Information Technologies (CALMIT)" on page 40.

### Center for Biological Chemistry

The Center for Biological Chemistry (CBC), established in 1987, develops and administers graduate and undergraduate programs in biochemistry, offers parallel curricula with a common core of science courses leading to an undergraduate biochemistry degree in either the UNL College of Agricultural Sciences and Natural Resources or the College of Arts and Sciences. CBC also encourages collaborative research in biological chemistry among the members of the faculty. Through the Center, UNL provides a unified biochemistry program that enables the University to make optimal use of its resources in biological chemistry due to the active involvement of UNL faculty from several academic units.

### Center for Biotechnology

See "Center for Biotechnology" on page 128.

### Center for Communication and Information Science

See "Center for Communication and Information Science" on page 291.

### Center for Electro-Optics

See "Center for Electro-Optics" on page 291.

### Center for Grassland Studies

See "Center for Grassland Studies" on page 40.

### Center for Great Plains Studies

See "Center for Great Plains Studies" on page 128.

### Center for Infrastructure Research

See "Center for Infrastructure Research" on page 291.

### Center for Laser-Analytical Studies of Trace Gas Dynamics

See "Center for Laser-Analytical Studies of Trace Gas Dynamics" on page 291.

### Center for Materials Research and Analysis

See "Nebraska Center for Materials and Nanoscience" on page 129.

### Center for Microelectronic and Optical Materials Research

See "Center for Microelectronic and Optical Materials Research" on page 291.

### Center for Nontraditional Manufacturing Research

See "Center for Nontraditional Manufacturing Research" on page 291.

### Center on Children, Families, and the Law

See "Center on Children, Families, and the Law" on page 129.

### Cooperative Extension

See "Cooperative Extension" on page 248.

### Engineering Research Centers

See "Engineering Research Centers" on page 248.

### Family Resource Center

See "Family Resource Center" on page 249.

### Gallup Research Center

The Gallup Research Center is a partnership between UNL and The Gallup Organization established in 1995 as part of the Nebraska Research Initiative. The partnership between UNL and Gallup occurs at every level, involving joint financial support of research, joint support of speaker series, adjunct faculty appointments, student interns, and faculty consultantships. The Center includes faculty from the College of Arts and Sciences, College of Business Administration, College of Education and Human Sciences, and College of Agricultural Sciences and Natural Resources. The Gallup Research Center's purpose is to support research and training in the areas of survey research and methodology (including political polling, market

research, sampling, and measurement), statistical analysis, workplace research, and data management.

### **Great Plains Veterinary Educational Center (GPVEC)**

See "Great Plains Veterinary Educational Center (GPVEC)" on page 40.

### **Hitchcock Center for Graduate Study and Professional Journalism Development**

See "Hitchcock Center for Graduate Study and Professional Journalism Development" on page 352.

### **Industrial Agricultural Products Center**

The Industrial Agricultural Products Center was established by the University of Nebraska–Lincoln to broaden markets for agricultural commodities produced in Nebraska by developing value-added products such as biofuels, biochemicals, biopolymers and biopower. The objectives of the Center are:

1. To broaden Nebraska's and the nation's industrial and commercial base through new applications of agricultural commodities.
2. To identify which products derived from agricultural commodities have the greatest chance for commercial success
3. To solve technical problems in production and raw material conversion
4. To provide technical, marketing, and business assistance to farmers, entrepreneurs, and people in commerce and industry.

The Center is a partnership involving Nebraska agriculture, business, government, and education. Faculty within the Institute of Agriculture and Natural Resources, the College of Engineering, and the College of Arts and Sciences are associated with the Center.

### **Institute of Agriculture and Natural Resources (IANR)**

See "Institute of Agriculture and Natural Resources (IANR)" on page 40.

### **International Quilt Study Center**

See "International Quilt Study Center" on page 249.

### **Mathematical Association of America American Mathematics Competitions (AMC)**

See "Mathematical Association of America American Mathematics Competitions (AMC)" on page 129.

### **Mid-America Transportation Center**

See "Mid-America Transportation Center" on page 291.

### **Midwest Roadside Safety Facility**

See "Midwest Roadside Safety Facility" on

page 292.

### **Nebraska Center for Mass Spectrometry**

See "Nebraska Center for Mass Spectrometry" on page 129.

### **Nebraska Food Processing Center**

See "Nebraska Food Processing Center" on page 40.

### **Nebraska Tractor Test Laboratory**

See "Nebraska Tractor Test Laboratory" on page 41.

### **Prairie Schooner**

See "Prairie Schooner" on page 130.

### **Psychological Consultation Center**

See "Psychological Consultation Center" on page 130.

### **Ruth Staples Laboratory Program**

See "Ruth Staples Laboratory Program" on page 249.

### **School of Natural Resource Sciences**

See "School of Natural Resources" on page 40.

### **Speech-Language and Hearing Clinic**

See "Barkley Center Speech-Language and Hearing Clinic" on page 248.

### **Water Center**

See "Water Center" on page 130.





# Office of Undergraduate Studies

## Office of Undergraduate Studies (OUS)

Rita C. Kean, Ph.D., Dean, 201 Seaton Hall, 472-1185  
 Gail Hackwith, Administrative Assistant  
 Sara Mattson, Administrative Technician

The Office of Undergraduate Studies is responsible for coordinating, administering, and advocating for campus-wide policies, programs and initiatives affecting undergraduate education and the retention of UNL students, particularly those activities outside the academic degree programs and individual majors. The Division of General Studies and University Honors Program report directly to the Dean. Other reports and responsibilities include the following areas. Additional information can be found on the OUS Web site at [www.unl.edu/ous](http://www.unl.edu/ous).

## General Education Requirements (ACE)

Nancy Mithell, Ph.D., Director of General Education, 325 Seaton Hall, 472-5647  
 Kelly Dick, M.L.S., Undergraduate Curriculum Associate

First-year students who begin matriculation at UNL in fall 2009 are required to complete the new general education requirements for the Achievement-Centered Education (ACE) Program (see page 17).

It is anticipated that UNL students matriculating prior to fall 2009 will continue to complete the CEP General Education Program requirements as designated by the bulletin year in which the student

started his or her UNL college program. (See page 389). Students who transfer to UNL as of fall 2009 may elect to complete their program under the CEP General Education Program requirements.

Consistent with the mission and values of the University, ACE is based on a shared set of four institutional objectives and 10 student learning outcomes. The ACE program was approved by faculty in all eight undergraduate colleges and endorsed by the Faculty Senate, the student government, and the Academic Planning Committee in January 2008 for implementation in the fall 2009. ACE aligns with current national initiatives in general education.

Key characteristics of ACE demonstrate the benefits of the program to students:

- Students receive a broad education with exposure to multiple disciplines, critical life skills and important reasoning, inquiry, and civic capacities.
- ACE is simple and transparent for students, faculty and advisers. Students complete the equivalent of 3 credit hours for each of the ten student learning outcomes.
- Students connect and integrate their ACE experiences with their selected major.
- Students can transfer all ACE certified courses across colleges within the institution to meet the ACE requirement and any course from outside the institution that is directly equivalent to a UNL ACE-certified course. Courses from outside institutions without direct equivalents may be considered with appropriate documentation for ACE credit (see academic adviser).
- ACE allows faculty to assess and improve their effectiveness and facilitate students' learning.

## Undergraduate Research and Fellowship Advising

Laura Damuth, Ph.D., Director of Undergraduate Research and Fellowship Adviser, 201 Seaton Hall, 472-5024

### Undergraduate Research and the UCARE Program

One of the most rewarding experiences for undergraduate students is to engage in faculty-mentored research. Many undergraduate research projects lead to the preparation of a senior thesis that not only advances the level of academic distinction with which a student may graduate, but also may be presented to enhance application to graduate and professional schools. (All honors students at UNL are required to complete an honors thesis in order to graduate from the program.) All students who are engaged in research are invited to participate in the annual Undergraduate Research Conference.

In recognition of the value of the research experience, the University provides undergraduate research scholarships on a competitive basis through the Undergraduate Creative Activities and Research Experiences (UCARE) program. UCARE, supported by the Office of Undergraduate Studies and funded by the Pepsi Endowment and Program of Excellence Funds, creates intellectual partnerships between UNL faculty and undergraduates by providing funds for research. For a more detailed description of the program, please visit the UCARE Web site at: [www.unl.edu/ucare](http://www.unl.edu/ucare).

### Fellowship Advising

The Fellowship Adviser helps prepare students to apply for international and national competitive scholarships (such scholarships as the Fulbright,

Rhodes, Truman, Marshall, Goldwater, and Rotary). The Fellowship Adviser works closely with students in scholarship selection and scholarship preparation. To find out more about these opportunities, visit the Office of Undergraduate Studies Web site at: [www.unl.edu/fellowships](http://www.unl.edu/fellowships).

## Director of Institutional Assessment

**Jessica Jonson**, Ph.D., Director of Institutional Assessment, 201 Seaton Hall, 472-3899

Academic and student affairs programs are expected to continuously engage in a programmatic assessment of student learning outcomes. These programs regularly report their assessment activities and results to their college/division and to the Office of Undergraduate Studies. Programs are also expected periodically to reflect on and use that evidence for Academic Program Review or Accreditation. The Director of Institutional Assessment works with colleges to establish assessment processes at the college level and chairs the University-Wide Assessment Committee (UWAC). The Director also coordinates assessment of undergraduate programming at the institutional level including National Survey of Student Engagement (NSSE) and UNL's Achievement-Centered Education (ACE) general education program. Assessment reports and resources can be found on the OUS Web site at: [www.unl.edu/ous/faculty\\_resources/assessment.shtml](http://www.unl.edu/ous/faculty_resources/assessment.shtml).

## Academic Transfer Coordinator

**JoAnn Moseman**, M.A., Academic Transfer Coordinator, 201 Seaton Hall, 472-9455

Any post-secondary credit earned at an institution outside the University of Nebraska–Lincoln is considered transfer credit. This can include credit earned while students were in high school, credit transferred from another postsecondary institution, credit by exam, or study abroad credit. Students who transfer to UNL have unique challenges including a shorter time on campus to find resources, get to know faculty, and get involved on campus. Transfer students add richness to the academic and ethnic diversity on campus. The Transfer Coordinator seeks to smooth the transition to the university community and provides information and referral to a variety of campus resources to help them achieve their academic goals. Additional information is available at: [www.unl.edu/ous/student\\_programs/transfer.shtml](http://www.unl.edu/ous/student_programs/transfer.shtml).

## Honor Societies for Transfer Students

These organizations are working together to plan activities for new transfer students to help them feel welcome and get acquainted at UNL. Both organizations recognize and encourage scholarship and involvement on campus.

**Phi Theta Kappa Alumni Association.** Phi Theta Kappa is an International Honor Society for two-year colleges. Any member in good standing of Phi Theta Kappa at a two-year college is eligible to join the UNL Alumni Association. The UNL group is affiliated with the Nebraska-Wyoming

region Alumni Association of Phi Theta Kappa. The UNL Alumni Association seeks to uphold the four hallmarks of Phi Theta Kappa: Scholarship, Leadership, Service and Fellowship.

**Tau Sigma.** Tau Sigma is a National Honor Society created exclusively for transfer students. Eligibility for lifetime membership is based on transferring at least one year of credit, full-time status, and the student's GPA the first semester at UNL. The primary purpose of Tau Sigma of Nebraska is to encourage, recognize and reward high achievements of students transferring to the University of Nebraska–Lincoln; and to support and promote the students' involvement at this university.

## Learning/Scholars Communities

**AnnMarie Williams**, M.S., Academic Learning Community Coordinator, 201 Seaton Hall, 472-0698

Learning/Scholars Communities are designed to build community among entering first year students. Participating students will take a few classes together, live together on the same floor of the residence hall and have interactions with faculty and staff through planned activities outside of class. Each Learning Community program is sponsored by an academic unit, either a college or department. Similar to the Learning Communities are the Scholar Communities, which are interdisciplinary communities, often involving faculty and course work from more than one college. There are 16 residential learning/scholars communities. Since their inception in 1998, more than 5,000 entering first-year students have participated in the UNL Learning Communities. Additional information can be found at: [www.unl.edu/learncom/](http://www.unl.edu/learncom/).

## Culture Center/OASIS

**Timothy Alvarez**, Ph.D., Interim Director, 472-5500

The Culture Center promotes ethnic traditions and serves as a community meeting place for all students. The Culture Center seeks to meet the particular educational, cultural, and social needs of students and their student organizations. Services provided at the Culture Center are directed toward academic success, social events, workshops, large meeting rooms, a conference room, a resource library, study lounges, a computer room, cable television, and a fully equipped kitchen.

## E.N. Thompson Forum on World Issues

**Marcia White**, M.A., Forum Coordinator, 201 Seaton Hall, 472-0074

The E.N. Thompson Forum on World Issues brings internationally recognized speakers to the UNL campus to increase understanding of the people and cultures of other countries and the opportunities and challenges that face us all. In addition to making the lectures available through a variety of media, the Forum organizes related activities for the campus and wider community. The E.N. Thompson Scholars Learning Community gives first-year students the chance to explore world issues together and participate in E.N.

Thompson Forum events including opportunities to interact with Forum speakers.

## Nebraska Honors

**Patrice Berger**, Ph.D., Director/Chair, University Honors Program, 118 Neihardt, 472-5425

See "Nebraska Honors" on page 19.

## University Honors Program

**Patrice Berger**, Ph.D., Director/Chair, University Honors Program, 118 Neihardt, 472-5425

See "The University Honors Program" on page 19.

## University Academy

University Academy courses provide a formal campus-wide recognition and support for curricular initiatives that cross disciplinary and administrative boundaries.

Academy courses are team-taught by faculty from several academic areas who contribute their disciplinary perspectives to the course content. Instructional teams typically consist of two or more faculty from different disciplines and, ideally, from different colleges.

Rather than being taught in linear segments or sequential disciplinary modules, Academy courses integrate material throughout the semester. All faculty members participate in class sessions to provide a variety of perspectives in class conversations and to serve as resources for interdisciplinary discussions. In the Academy setting, faculty model "learning" on topics and conversations guided by faculty participants from disciplines other than their own.

UACA course learning objectives teach students to: 1) think critically about a topic; 2) evaluate topics from multiple points of view and recognize interdisciplinary connections; 3) engage students in self-learning; 4) appreciate the collaborative environment in which learning, for both novices and more mature participants, takes place.

## Courses of Instruction (UACA)

191. University Academy I (1-3 cr, max 6) Lec.  
Topics vary.

291. University Academy II (1-3 cr, max 6) Lec.  
Topics vary.

391. University Academy III (1-3 cr, max 6) Lec.  
Topics vary.

491. University Academy IV (1-3 cr, max 6) Lec.  
Topics vary.

## Division of General Studies (DGS)

**Donald Gregory**, Ph.D., Director of the Division of General Studies, 33 Canfield Administration Building, 472-3605

The Division provides an academic home for UNL students who come to the campus uncertain about the field of study they wish to pursue. Some students have a variety of career interests and need time to make a decision regarding which college and major are most appropriate for them. Others have narrowed their choices to two or three options but want to explore these choices in greater depth before they make a firm commitment. Still other students have no idea what they want to major in or what career opportunities are available to them.

A fourth category is the student who has chosen a field of study (e.g., engineering or architecture) but needs preparatory work in order to meet the admission requirements of that program. Students pursuing degree programs that are offered on the UNL campus by UNMC (Nursing) also enroll as General Studies students. All of these students will find the assistance they need by enrolling as General Studies students. This unique advising unit currently has one of the larger student enrollments on the campus, with approximately 2,000 students.

#### **The Division of General Studies does not award degrees.**

### **Objectives**

General Studies advisers cooperate with all eight undergraduate degree-granting colleges on campus as well as the UNO- and UNMC-based programs by providing general academic assistance to students wanting to explore different majors before making a decision about a particular college. One of the strengths of General Studies is its unique position with regard to academic advising. Professional advisers in the Division are qualified to advise students interested in any of the eight UNL undergraduate colleges. By working closely with all of the colleges and with other programs on campus, the adviser can help students design a general academic plan for one or more semesters that will allow them to progress toward a degree, while exploring the variety of opportunities offered by the University.

The eight undergraduate degree-granting Colleges are Agricultural Sciences and Natural Resources, Architecture, Arts and Sciences, Business Administration, Education and Human Sciences, Engineering, Hixson-Lied College of Fine and Performing Arts, and Journalism and Mass Communications. Other available programs include criminal justice, nursing, gerontology, and programs preparing students for further study in a professional college such as medicine, law, dentistry, or pharmacy. Each of these programs is outlined in detail in other sections of this bulletin.

Since General Studies does not offer a degree program, most students are encouraged to transfer to one of the eight undergraduate colleges by the end of their sophomore year. Some will transfer before that time while others may remain in General Studies longer if they have not met all of the admission requirements for their chosen college, such as a specific grade point average (GPA). Once they have chosen a college, it is in the best interest of students to transfer out of General Studies into that college without delay.

### **Scholarships**

General Studies students are eligible for all scholarships available through the Office of Scholarships and Financial Aid and external sources (see the Financial Aid section of this bulletin).

### **Academic Advising**

General Studies students should consult with their advisers frequently to discuss their academic program, career interests, course selections, specific college admission and graduation requirements, University procedures and policies and other matters of concern to them.

Since the General Studies advisers work closely with advisers in the eight undergraduate colleges on campus, a student will be able to take courses that meet several college requirements while deciding on a major. This opportunity allows the student to explore possible areas of interest before declaring a major.

Once a student has selected a major or college, the General Studies adviser will review the admission requirements with the student and outline the steps necessary to matriculate in the newly-selected major and college.

### **Honors**

General Studies students are recognized for outstanding academic achievement by the University in two ways: first, by the All-University Honors Convocation held each April, and second, by the General Studies Honor Roll. To be eligible for All-University Honors, a student must meet specific criteria (see "Honors Convocation Recognition Requirements" on page 15 in this bulletin, as well as the *Schedule of Classes* published each semester).

To be named to the General Studies Honor Roll, students must achieve a minimum 3.6 grade point average while carrying at least 12 graded hours in the semester of recognition.

The All-University Honors are based on the cumulative GPA at the end of the first (fall) semester only, while the Honor Roll recognizes scholarship determined by the semester GPA each semester.

### **Admission to General Studies**

Students who have met the overall University admission requirements established by the Board of Regents are eligible for admission to General Studies. The University admission requirements are outlined in detail in the Admission to the University section on page 6 of this bulletin.

Some UNL colleges have admission requirements in addition to the overall University admission requirements, and General Studies students will be advised accordingly as they choose the majors they would like to pursue in their chosen colleges.

### **Removal of Entrance Deficiencies**

General Studies students who enter the University with one or more course deficiencies (according to the 1997 Admissions Standards) must remove all deficiencies—except those in modern

language—within their first 30 credit hours or their first twelve months of continuous enrollment, whichever takes longer. Deficiencies in modern language must be removed within the first 60 credit hours or the first twenty-four months of continuous enrollment, whichever takes longer. Students who enter the University with a math deficiency **must** take a math course their first semester in attendance and continue taking math until they have successfully removed the deficiency.

General Studies students who lack one or more of the high school units required for admission to any of the **eight undergraduate colleges** will be advised of the procedure for removing the deficiency by their General Studies adviser. Most UNL colleges expect these deficiencies to be removed by the end of the first year at the University.

For University policy, see "Graduation Requirements" on page 16.

### **Transfer Students**

Students desiring to transfer from other institutions and enroll in General Studies at UNL must have a cumulative grade point average of C (2.0 GPA on a 4.0 scale) or above. Students who do not meet this requirement may appeal their admission status to the Director of Admissions.

Students transferring into General Studies from outside the University of Nebraska system will need to present a transcript for admission. Courses on the transcript may be viewed as meeting the overall University requirements for admission, but the determination of which of these courses will meet graduation requirements in a specific college cannot be made until the student declares a specific major within one of the eight undergraduate degree-granting colleges. The General Studies adviser can provide a preliminary assessment of which specific courses may be accepted by each of the colleges. This assessment is done in cooperation with the colleges and is subject to their approval upon admission to their program.

### **Courses to Consider for General Studies Registration**

Please refer to the Division of General Studies Web site (<http://unl.edu/dgs>) for an up-to-date list of recommended courses for General Studies students to consider.

### **Introductory Courses for Exploratory Purposes**

Many majors include introductory courses as part of their academic program. Keep in mind that, in general, 100-level courses are for freshmen, 200-level courses for sophomores, 300-level courses for juniors, and 400-level courses for seniors.

The introductory courses listed below can be taken as exploratory courses by General Studies students. The listing is not all-inclusive but can serve as a general guide for introductory courses to various areas of study. If a program in which you are interested is not listed below, please call the department for more information. An asterisk (\*) beside a course is an indication of prerequisites or

specific restrictions associated with that course. Please check the course description within the college in which the course is taught for the specific requirements.

## Some Exploratory/Introductory Courses by College

### Agriculture

AGRI 103/NRES 103. Food, Agriculture & Natural Resource Systems (3 cr)  
 AECN 141. Intro to the Economics of Agriculture (3 cr)  
 AGRO 131. Plant Science (3 cr)  
 ASCI 100. Fundamentals of Animal Biology & Industry (2 cr) and ASCI 101 Intro to Animal Science Lab (1 cr)  
 HORT 130. Intro to Horticulture Science (4 cr)  
 MSYM 109\*. Physical Principles in Agriculture (4 cr)

### Architecture

ARCH 106. Environmental Studies (3 cr)  
*(by permission only)*

### Arts and Sciences

BIOS 101 & 101L. General Biology & Lab (4 cr)  
 CHEM 109. General Chemistry I (4 cr) or CHEM 113\*  
     Fundamental Chemistry I (4 cr)  
 CLAS 180. Classical Mythology (3 cr)  
 COMM 109. Fundamentals of Human Communication (3 cr)  
 CSCE 155\*. Computer Science (4 cr)  
 ECON 211\*. Principles of Economics (3 cr)  
 ENGL 200. Intro to English Studies (3 cr)  
 GEOG 140. Introductory Human Geography (3 cr)  
 GEOG 155. Elements of Physical Geography (4 cr)  
 GEOL 101. Physical Geology (4 cr)  
 HIST 100. Western Civilization to 1715 (3 cr)  
 HIST 101. Western Civilization Since 1715 (3 cr)  
 HIST 201. American History to 1877 (3 cr)  
 HIST 202. American History After 1877 (3 cr)  
 MATH 106\*. Analytic Geometry & Calculus I (5 cr)  
 PHIL 101. Intro to Philosophy (3 cr)  
 PHIL 110. Logic & Critical Thinking (3 cr)  
 PHYS 151. Elements of Physics (4 cr)  
 PHYS 211\*. General Physics (4 cr)  
 POLS 100. American Government (3 cr)  
 POLS 160. International Relations I (3 cr)  
 PSYC 181. Intro to Psychology (4 cr)  
 SOCI 101. Intro to Sociology (3 cr)

### Business

ACCT 201\*. Introductory Accounting (3 cr)  
 ECON 210\*. Intro to Economics (5 cr)  
 ECON 211\*. Principles of Economics (3 cr)

### Education and Human Sciences

CYAF 160. Human Development & the Family (3 cr)  
 TEAC 331\*. Cultured Foundations of American Education (3 cr)  
 TXCD 121. Design Essentials (3 cr) *(exploratory only, not for majors)*

### Engineering

CNST 131. Intro to Construction Industry (3 cr)  
*(For construction management interest only.)*

General Studies students may take the following courses on a “space-available” basis:

AGEN/BSEN 112. Problem Solving in Agricultural & Biological Systems Engineering (3 cr)  
 CIVE 112. Intro to Civil Engineering (1 cr)  
 CSCE 150. Intro to Computer Programming for Scientists & Engineers (3 cr) *(appropriate for some but not all majors)*

MECH 100. Intro to Mechanical Engineering (1 cr)  
 MECH 130\*. Intro to CAD (2 cr)

### Fine and Performing Arts

AHIS 101. Intro to Art History & Criticism I (3 cr)  
 AHIS 102. Intro to Art History & Criticism II (3 cr)  
 THEA 112G. Intro to Theatre (3 cr)  
 THEA 114. Basic Acting I (3 cr)

### Journalism

JOUR 101. Principles of Mass Media (3 cr)

### Criminal Justice

CRIM 101. Survey Criminal Justice (3 cr)

### Pre-Nursing

CHEM 105. Chemistry in Context I (4 cr)



# College of Agricultural Sciences and Natural Resources

## About the College

<http://casnr.unl.edu>

**Steven S. Waller**, Ph.D., Dean and Professor of Agronomy

**David K. Hardin**, D.V.M., Associate Dean and Professor of Veterinary and Biomedical Sciences

**Dann E. Husmann**, Ph.D., Associate Dean and Professor of Agricultural Leadership, Education and Communication

**John P. Markwell**, Ph.D., Associate Dean and Professor of Biochemistry

**Jack L. Schinstock**, Ph.D., Associate Dean and Professor of Biological Systems Engineering

## Faculty

Approximately 179 highly qualified faculty members, dedicated to learning and recognized for their scholarly activity in teaching, provide instruction to approximately 2,200 students, including undergraduates and graduates. A high priority is placed on advising for personal development and career preparation. Eleven academic departments, the Center for Grassland Studies, and the School of Natural Resources offer a broad scope of options to students working toward bachelor of science degrees. The College offers coordination with the UNL Honors Program, preprofessional programs in forestry and veterinary science, and joint academic transfer programs with many community colleges in the Midwest.

## Standing Committees

**Committee on Scholarship.** Composed of three faculty members and one student member, this committee is responsible for recommending criteria for graduation with distinction, high distinction or highest distinction; reviewing and recommending students for graduation with distinction; and advising the dean on scholarship policies.

**Curriculum Committee.** The committee may consist of one representative of each unit as voting members and one non-voting member as follows: one faculty member from each unit, two student representatives, the Dean of the College or designee, the Graduate Council representative in IANR as ex-officio (non-voting), and the UNL Curriculum Committee representative from CASNR as ex-officio (voting). This committee acts for the College faculty on all matters dealing with the curriculum. It is authorized to approve, reject, or modify properly initiated student requests involving College requirements, such as course substitutions, waiver of the residency rule, or for acceptance of transfer credits. (See "Grade Appeals" on page 42 for further committee concerns.)

**Faculty Advisory Council.** The Council will consist of one faculty representative from each unit with each serving a two-year term with approximately one-half of the membership rotated each year. No member will be a unit administrator or hold any administrative office within the College.

This council's responsibilities include counseling the Dean on affairs not under the jurisdiction of other standing committees; serving as a liaison between the College's administration and the faculty, annually reviewing procedure for evaluation of the faculty and administrators within the college in concert with the Liaison Committee of IANR; making recommendation to the Dean on the establishment of ad hoc committees; acting as the College Committee on Committees; and serving as a source of advice to the Dean on general matters of teaching.

**Teaching Awards Committee.** Membership of the Teaching Awards Committee will consist of the most recent recipient of a teaching award from each unit from which a recipient has been selected. No unit will have more than one member on the Committee. The Committee has the responsibility for recommending candidates for the teaching awards in consultation with the CASNR Advisory Board.

## Mission

Since the establishment of the University of Nebraska in 1869 and its commitment to the terms of the Land-Grant College Act calling for the instruction in agriculture and applied sciences, the College of Agricultural Sciences and Natural Resources (CASNR) has provided opportunities for students to develop intellectually and meet the challenges of their era. CASNR fosters a student-centered learning environment where diverse basic and applied natural, life, earth and social sciences

are integrated into the context of a global society and environmental stewardship. Our goal is to prepare students as leaders for a future in which demands on resources and food systems will challenge sustainability. The areas of study are broad and span animal, plant, and human health and well-being, earth systems analysis, agricultural production and processing, global climate change, agricultural market structures, water resources, and land-use change. The College also has the responsibility for the coordination of all agricultural sciences and natural resources programs in higher education within the State of Nebraska.

## Goals of the College

The goals of the College emphasize the value that our faculty, staff and administration place on preparing our students for successful professional careers. The goals of the College include:

- **Professional development** by providing a strong academic background in agricultural and life sciences and natural resources through the individualization of programs, through degree programs, options and elective courses that will prepare students for suitable and satisfying careers. Students will develop general knowledge and breadth of understanding through the supporting areas of biological, physical and social sciences and the humanities; and, in the areas of communication, business, management, and leadership through practical experiences and application of analytical techniques.
- **Personal development** of students by providing organizations and experiences that will stimulate and foster professional and social growth, and provide the means to explore career opportunities.
- **Career preparation** through the College's participation with the Career Services Center for after-graduation employment, part-time employment and internships. The College also offers a variety of courses that emphasize career planning and education, hosts an annual Career Day and works closely with the private and public employment sectors.
- **Continuing education** by providing services to the citizens of Nebraska, and assistance to alumni in keeping them current of developments in their field and identifying employment opportunities that may exist and making a life-long commitment to our graduates.

## Student Services and Information

### Academic Advising

Undergraduate Advising: Dann E. Husmann

Advising activities are coordinated by the Associate Dean for Student Affairs in the CASNR Dean's Office. Each student in the College is assigned a faculty adviser to assist in career planning, implementing, and completing academic programs. Assignments are made so that students will be working with an adviser who shares their

academic interest. Students are encouraged to visit with their faculty or professional adviser about their career interests and development opportunities. Students may change their college, degree, and/or adviser. Such changes must be initiated in 103 Agricultural Hall.

## Student Organizations

Students in CASNR are encouraged to participate in the College's many student organizations, clubs, events, and activities. Departmental clubs allow students to make lasting friendships with students and faculty while providing experience in careers. Students may determine club contact persons by visiting with staff in 103 Agricultural Hall. Many of the clubs have been ranked in national competition. Students may contact their advisers to discuss student organizations that would match their interests.

## Student Responsibilities

Students are ultimately responsible for fulfilling all the requirements of the curriculum in which they are enrolled. Students are also responsible for initiating advising contacts and preparing for advising sessions. The mentoring relationship between academic advisers and students is confidential and is strengthened by advisers' listening with understanding to student concerns.

Students are expected to take responsibility for successful university experiences and effective advising sessions by:

1. Participating in New Student Enrollment and priority registration programs;
2. Scheduling appointments with advisers well in advance of priority registration and at other times as needed;
3. Identifying class choices from requirements of the selected program;
4. Identifying questions to address in advising sessions;
5. Informing advisers of any special needs, deficiencies or barriers that might affect academic success;
6. Following academic policies and procedures and meeting academic calendar deadlines (e.g. registration, fee payment, degree audit, filing for degree, etc.);
7. Knowing and completing degree or program requirements;
8. Monitoring their progress toward meeting degree requirements by maintaining a copy of their academic records and seeking assistance to resolve any errors or questions; and
9. Acting on recommendations to seek assistance from the various student support services provided by the University.

## Bachelor of Science Candidacy Status

### Rationale

The purpose of establishing Bachelor of Science Candidacy Status within the College of Agricultural Sciences and Natural Resources (CASNR) is to:

- Provide students with a road map for academic success;
- Ensure that CASNR students move through their academic experiences on logical, developmental paths that allow them to maximize the educational impact of the curricula; and
- Decrease the number of graduating seniors that must complete core requirements (math and natural sciences) during their final semesters.

### Criteria

- Achieve senior status (89 credit hours or more);
- Have removed high school admission deficiencies;
- Have completed the CASNR core course requirements in mathematics and statistics and natural sciences;
- Complete a degree audit (DARS); and
- Have met with student's academic adviser.

### Implementation

Bachelor of Science Candidacy Status must be achieved in the semester prior to the semester in which the student intends to graduate (e.g., If the student anticipates a May graduation, he/she must be cleared before registration for fall courses the semester prior to graduation.) Once 89 credits have been earned, we will check if candidacy status has been met. If not, a hold will be placed on the registration. The hold will be removed by the CASNR Dean's Office once the student meets with his/her academic adviser.

Before the semester prior to the student's graduation:

1. UNL Registration and Records will identify CASNR students that have achieved senior status (89 credit hours or more) and inform the CASNR Dean's Office.
2. Academic advisers will receive a list of 'senior status' students from the CASNR Dean's Office.
3. Advisers will confirm with the CASNR Dean's Office that their advisees have achieved Bachelor of Science Candidacy Status.
4. Students who have not satisfied the CASNR Bachelor of Science Candidacy Status criteria will be contacted by the CASNR Dean's Office alerting them that holds have been placed on their registrations. They also will be informed about which of the Bachelor of Science Candidacy Status criteria they have not satisfied and steps to take to remove the holds.

The semester prior the student's graduation:

1. The CASNR Dean's Office will confirm students' achievement of candidacy status with individual students and their academic advisers.

## CASNR Advisory Board

Composed of 8-16 students and two faculty advisers, the CASNR Advisory Board represents students of the College. The board serves in an advisory capacity in matters of academic programs and services at the unit, college, or university level. It functions as a liaison for students in matters brought before the faculty and/or administration. The board is composed of student representatives from each of the degree programs.

## Recruitment, Retention and Career Planning

Jill Brown, Career Planning, 472-8273  
 Laura Frey, Recruitment, 472-4445  
 Sue Voss, Retention, 472-0609

Recruitment, retention, and placement activities are coordinated through the Dean's Office. The office is actively involved in recruiting students to the College and providing support for internships and after-graduation employment.

For increasing job placement success after graduation, students are encouraged to gain work experience through internships. Preparing students for a successful career is a top priority of CASNR. The College offers a variety of courses to students that emphasize career planning and education. The College also coordinates an annual Career Fair each fall. In the spring, a career fair for natural resources and the PGA Golf Management program is held. When students graduate, they are well-prepared to compete in the job market. The College's Career Services East Campus Satellite Office is located in 301 Nebraska East Union. The office coordinates all interview activity with UNL's Career Services for both part-time employment and internships and for after-graduation employment. Representatives from both offices maintain office hours each week in 301 Nebraska East Union. Please contact the office at 472-8273. Students are free to pick up subscription materials for Career Services and browse through informational brochures and videos for companies that employ CASNR students.

## The Student Experience

The faculty accept the challenges and responsibilities of the College goals for preparing their students for successful careers. A new program was initiated in the fall of 1999 entitled Ensuring Your Future: A Guide for Student Success in Career Placement. In this program, CASNR students are responsible for taking full advantage of the academic programs, faculty advisers, services and opportunities that the College and University provides. The CASNR faculty are confident that the criteria identified in the 'Ensuring Your Future' program enhance students' career opportunities and will make their college experience very meaningful, as well as enjoyable. The college experience for CASNR students emphasizes the importance of academics, involvement and experience in their personal and professional development.

### Academics

- Meet with your assigned adviser at least once per semester each semester that you are enrolled.
- Graduate with a **cumulative 3.0 GPA**.
- Select **elective courses** in consultation with your adviser to complement your personal or professional goals and/or present an approved "**Minor**" application prior to the deadline for submitting the application for graduation.
- Successfully complete the course AGRI/NRES 388 **Employment Seminar**.
- Demonstrate **computer literacy** [successfully complete a course (i.e., AGRI 271) or a proficiency examination].

### Involvement

- Participate in at least one **student organization** (or student governance) and/or become a student member of a **professional society** or organization related to your major or professional interests. You are also encouraged to participate in academic and service **honoraries** when invited.

### Experience

- Maintain an active portfolio using the **Blackboard** system.
- Subscribe to Husker Hire Link (HHL) through **Career Services** while in college and maintain current information on file.
- Complete at least one **internship** in the professional field for credit.
- Complete at least one **additional career experience** with or without credit.
- Maintain a **resume** file beginning with first semester and prepare a new resume annually.
- Complete a minimum of three interviews through Career Services during the senior year (at least two in the semester preceding graduation).
- Attend a minimum of four CASNR **Career Days**.
- Identify three **references** (e.g., academic adviser, club adviser, instructor, or employer) by the end of the junior year.

All CASNR students are encouraged to participate in the College's 'Ensuring Your Future' program, document their accomplishments with their student portfolio and submit a completed portfolio to the Dean's Office.

## International Opportunities

The College offers a variety of opportunities for students to enhance their international awareness. All students are required to demonstrate that they have a minimal international awareness, either through course work or experience. A minor in International Agriculture and Natural Resources can be designed for students who seek a broad understanding of the nature and role of agriculture and natural resources in the integrated world economy and the implications of world events for agriculture and natural resources. International study tours of one to three weeks in duration are also sponsored by CASNR to assist students in discovering different ways of thinking and acting as well as making them more informed global citizens. CASNR also promotes the Study Abroad program offered through the UNL Office of International Affairs which has opportunities of various lengths in numerous countries on all continents.

For financial assistance, the College offers the Robert and Beatrice Kleis Fund. One or more grants are awarded annually to undergraduate students in agriculture-related degree programs at the University of Nebraska-Lincoln. These grants shall be used to subsidize expenses associated with an international study program for credit. For more information on international opportunities, contact Dr.

Arlen Etling, 103 Agricultural Hall, the International Affairs Office, or refer to "Study Abroad and Exchange Programs" on page 20 of this bulletin.

## Student Recognition

Each year scholarships and special awards are presented to CASNR students in recognition of academic excellence and noteworthy achievements in college life.

### Scholarships

Various donors have provided scholarships for students enrolled in CASNR. Academic year scholarship amounts range from \$100 to \$10,000. Inquiries about these scholarships can be directed to Dr. Dann Husmann, 103 Agricultural Hall.

### Dean's List

Each semester, students having 12 semester-graded hours with a minimum grade point average of 3.75 or above are eligible for the Dean's List.

## Degrees with Distinction

In recognition of outstanding academic excellence, the CASNR recommends the bachelors degree With Distinction, With High Distinction, and With Highest Distinction. Recommendations are made by the CASNR Committee on Scholarship. To be eligible for consideration by the Committee undergraduate students must complete 45 credit hours for a letter grade (excluding Pass/No Pass marks) at UNL prior to the semester in which they graduate and must have completed 60 such credit hours at UNL at the time they graduate. To determine which of the eligible candidates will be recommended for the honor, the Committee uses the cumulative grade point average as follows:

With Distinction .....	3.800-3.899
With High Distinction.....	3.900-3.949
With Highest Distinction.....	3.950-4.000

**NOTE:** An undergraduate thesis is required to graduate With Highest Distinction regardless of a student's grade point average.

## Research and Service Activities

### Agricultural Research Division

The Agricultural Research Division is the research component of the Institute of Agriculture and Natural Resources. Most of the research faculty are on joint appointments in the College of Agricultural Sciences and Natural Resources, the School of Natural Resources, the Extension Division, or the College of Education and Human Sciences. The Nebraska Agricultural Experiment Station was established by the Hatch Act of 1887 and receives State and Federal appropriations for research in agriculture, human sciences, and natural resources. Research is conducted in departments on the East Campus and at University research facilities throughout Nebraska.

**East Campus.** Most of the scientists in the Agricultural Research Division are located on the East Campus of the University of Nebraska–Lincoln where a broad range of research programs are conducted through 11 academic departments plus the School of Natural Resources. In addition to laboratories, greenhouses, and other research facilities, about 100 acres on the campus and 600 acres near Lincoln are used for crop and livestock investigations. Principle research areas include agricultural economics, biological systems engineering, agricultural education and communication, agronomy, animal science, biochemistry, entomology, food science, forestry, horticulture, agricultural meteorology, plant pathology, range management, soil science, veterinary science, and wildlife science. Part of the research work is in cooperation with the USDA Agricultural Research Service and Forest Service.

**Agricultural Research and Development Center.** This research facility comprises approximately 9,500 acres of what was formerly the Nebraska Ordnance Plant near Mead, Nebraska. This land was acquired by the University of Nebraska in 1962 and has been developed into a comprehensive research facility for the Lincoln-based staff of the Institute of Agriculture and Natural Resources as well as other University departments and cooperating agencies of the United States government.

**District Research and Extension Centers.** The Agricultural Research Division has scientific staff and programs at district research and extension centers at Norfolk, North Platte, and Scottsbluff. These centers, backstopped by the more basic research activities in the subject matter departments on the East Campus, serve the applied research needs of the major areas of the state.

Off-campus research is also conducted at the U.S. Meat Animal Research Center at Clay Center and at research field laboratories located near Plattsmouth, Sidney, Virginia, Whitman, and Long Pine.

### **Center for Advanced Land Management Information Technologies (CALMIT)**

The Center for Advanced Land Management Information Technologies (CALMIT) was established in 1986 by the Board of Regents of the University of Nebraska. CALMIT was founded to significantly enhance and expand research and instructional activities in remote sensing, geographic information systems (GIS), automated cartography and image processing that had, since 1972, been conducted through the University of Nebraska–Lincoln Remote Sensing Center. Through formal linkages among universities, public agencies and private enterprise, CALMIT is developing new research, teaching and service opportunities in these advanced land management information technologies at UNL, in the state, and the region.

As a center-of-excellence, CALMIT serves to focus the significant interdisciplinary expertise in advanced land management information technologies that exist on campus and in the region. CALMIT has close working relationships with a

number of partners including the University of Kansas, Kansas State University, the University of Nebraska at Omaha, Creighton University, the U.S. Geological Survey/EROS Data Center, NASA Stennis Space Center, NASA Goddard Space Flight Center, NASA Ames Research Center, NASA/Jet Propulsion Laboratory, the USDA/Natural Resources Conservation Service, the National Oceanic and Atmospheric Administration/National Severe Storms Laboratory, the U.S. Forest Service, the National Park Service and the U.S. Environmental Protection Agency, Space Imaging, Inc., and several other firms.

### **Center for Grassland Studies**

Grasslands cover more than half of Nebraska's land surface area. They serve as the basis of a strong and large livestock industry, a vital wildlife habitat, a natural resource for maintaining and improving environmental quality (water, soil, and air), a growing sports and leisure industry, and a positive influence on quality of life. University of Nebraska faculty have and continue to provide nationally recognized leadership in the breeding and management of forage, range, and turf grasses, grassland ecology and physiology, grassland cattle production, grassland pests, and wildlife management. The Center for Grassland Studies was established in 1994 within the Institute of Agriculture and Natural Resources to bring together faculty and others with expertise in grasses and grasslands to interact, discuss ideas, and develop cooperative research and education projects and programs that better serve our citizens. Vehicles through which the Center educates people about the importance of grasslands include a quarterly newsletter, a Web site (grassland.unl.edu), and a seminar series during the fall semester. The two degree programs coordinated by the Center are: Grazing Livestock Systems and PGA Golf Management.

### **Great Plains Veterinary Educational Center (GPVEC)**

Through education, research, service, and extension, the Great Plains Veterinary Educational Center (GPVEC) is working to meet the needs of students and veterinarians serving the livestock industry. Under the direction of the GPVEC faculty, veterinary students participate in the veterinary medical care of the US Meat Animal Research Center (MARC) livestock. This includes surgery, treatment, diagnostics, and herd health. The GPVEC faculty also conduct research primarily in herd health management and work with practicing veterinarians in this area.

The GPVEC programs also serve the continuing education needs of food animal veterinarians nationwide. The programs involve the cooperation of the faculty at the University of Nebraska–Lincoln Department of Veterinary and Biomedical Sciences, Iowa State University College of Veterinary Medicine, and other universities as well as extension specialists and animal and veterinary scientists at MARC.

### **Institute of Agriculture and Natural Resources (IANR)**

The University of Nebraska Institute of Agriculture and Natural Resources (IANR) was established in 1973 to serve the people of Nebraska in the four-fold mission of teaching, research, extension, and service. Commonly referred to as "IANR", the Institute is administered by the Vice Chancellor for Agriculture and Natural Resources who also serves as a Vice President and IANR Harlan Vice Chancellor in the University of Nebraska system. IANR has faculty and staff located throughout the state. Institute faculty and staff have appointments in the following divisions: Agricultural Research Division, College of Agricultural Sciences and Natural Resources, College of Education and Human Sciences, and Extension Division. Each division is administered by a dean or director. The Institute is comprised of 11 academic departments plus the School of Natural Resources, 4 regional research and extension centers, 12 interdisciplinary centers and five program units, and administers the Nebraska College of Technical Agriculture at Curtis and the Nebraska Statewide Arboretum.

### **Nebraska Food Processing Center**

The Nebraska Food Processing Center at UNL provides assistance on every aspect of value-added food processing including product and process development/evaluation, computational analysis, equipment, packaging, marketing and business development for individuals and companies requesting its services. The Center assists both Nebraska entrepreneurs and the existing food processing industry through technology transfer and research relative to value added food products and food ingredients.

The Center, located in the Food Industry building on UNL's East Campus, is the result of a partnership involving the Institute of Agriculture and Natural Resources, state agencies, and private business and industry.

### **Nebraska Tractor Test Laboratory**

The Department of Biological Systems Engineering is responsible for testing tractors to be sold in Nebraska. The Tractor Test Laboratory tests the performance of new farm tractors in accordance with Nebraska state law and in conformance with the standard testing procedures of the Society of Automotive Engineers and/or the Organization for Economic Cooperation and Development. Since 1920, nearly 1,700 new models of farm tractors have been tested. The laboratory also tests engines, alternative fuels, and off-road vehicles to determine power production and fuel efficiency.

### **School of Natural Resources**

The School of Natural Resources (SNR) has strong scientific programs to provide understanding of complex relationships and interactions within and among natural and managed ecosystems. The School provides leadership in developing outstanding academic programs in natural resources and environmental sciences, and in integrating strategies to affect the sustainable use of

natural resources within the framework of related environmental, social and economic processes. Thus, the School serves the academic and scientific community, government agencies, resource managers, landowners, and the general public, with timely and relevant information on the use and conservation of renewable and nonrenewable natural resources and on resource management opportunities and environmental challenges, particularly those in the Great Plains. Promotion of collaboration within and among disciplines is a goal of the Schools' programs.

## Admission to the College

Requirements for admission into CASNR are consistent with general University admission requirements (**one unit equals one high school year**): 4 units of English, 4 units of mathematics, 3 units of natural sciences, 3 units of social studies, and 2 units of foreign language. Students must also meet performance requirements (ACT composite of 20 or higher OR combined SAT score of 950 or higher OR rank in the top one-half of graduating class; transfer students must have a 2.0 (on a 4.0 scale) cumulative grade point average and 2.0 on most recent term of attendance.

Students who are admitted to CASNR with core course deficiencies, must remove these deficiencies within the first 30 credit hours at UNL, or within the first calendar year at UNL, whichever takes longer, excluding foreign languages. Students have up to 60 credit hours to remove foreign language deficiencies. College-level course work taken to remove deficiencies can be used to meet degree requirements at CASNR.

## Class Standing

**Sophomore Standing.** For admission to sophomore standing a student must have completed all of the College entrance requirements, earned a minimum of 27 semester hours of credit, and attained a total grade point average of at least 2.0.

**Junior Standing.** A student has junior standing after meeting the requirements for sophomore standing and completing 53 semester hours of credit.

**Senior Standing.** A student has senior standing after meeting the requirements for junior standing and completing 89 semester hours of credit.

## College Bulletin to Follow

Students must follow the undergraduate bulletin in effect when they enroll in the College of Agricultural Sciences and Natural Resources or any subsequent bulletin published while the student is enrolled in the College, provided the bulletin they follow is no more than 10 years old at the time of graduation. Students must, however, meet the requirements from one bulletin only.

## College Academic Policies

### Course and Degree Requirement Exclusions and Restrictions

- Not more than 12 hours of independent study.
- Not more than 24 hours of Pass/No Pass grade option.
- Not more than 64 hours of correspondence courses.
- Not more than 66 hours from two-year colleges.
- Not more than 98 hours from other four year institutions.
- Not more than 6 hours of correspondence can be counted among the last 36 hours earned.
- No credit toward the BS degree is allowed for MATH 100A.
- No more than 10 semester hours of below C grades are transferable from colleges outside the NU system. Grades below C can only be applied to free electives.

### Correspondence Courses

There are many opportunities to earn college credit through the University of Nebraska-Lincoln Office of Extended Education and Outreach. Some of these credits may be applicable not only as elective credits, but also toward the fulfillment of the College's education requirements. Half of the credit needed for graduation can be earned through correspondence courses, but such credit does not count toward residence.

For further information, contact:

Office of Extended Education and Outreach  
University of Nebraska-Lincoln  
900 N 21st Street  
Lincoln, NE 68588-8307  
402-472-2175  
<http://extended.unl.edu/>

### Independent Study

Students wishing to take part in independent studies must obtain permission; complete and sign a contract form; and furnish copies of the contract to the instructor, adviser, departmental office, and the Dean's Office. The contract should be completed before registration. Forms are available in 103 Agricultural Hall.

Independent study projects include research, literature review or extension of course work under supervision and evaluation of a departmental faculty member.

Students may only count 12 hours of independent study toward their degrees and no more than 6 hours can be counted during their last 36 hours earned, excluding senior thesis, internships, and courses taught under an independent study number.

### Credit by Examination

Some currently-enrolled students, through outside study or relevant experience, may feel prepared to demonstrate that they have attained the knowledge and/or skills required to pass a particular UNL course. As an alternative to enrolling in the course, such students may elect to take a proficiency exam which tests for mastery of the course material. If a student scores satisfactorily on the examination, the student may be awarded credit for the course. Students can obtain detailed information from the Dean's Office, 103 Agricultural Hall.

### Validation of Credit from Non-Regionally Accredited Institutions

At the present time credit may be granted for work earned at privately owned and managed schools, Bible schools, foreign colleges, and technical schools after one or more of the following:

- The University departmental examination over subject matter studied at the sending institution;
- Departmental review of textbooks, materials used in the course at the sending institution, and the presentation of examples of the student's work or portfolio when required; and/or
- The student has taken a higher level course at the University and achieved a grade that was satisfactory according to established criteria of the department, or any departmental requirement deemed necessary by the department head.

### Pass/No Pass Courses

Students in CASNR may take any course offered on a Pass/No Pass basis within the 24-hour limitation established by the Faculty Senate. However, a department may specify that the Pass/No Pass status of its courses be limited to non-majors, or may choose to offer some courses for letter grades only.

### Removal of C-, D and F Grades

Only the most recent letter grade received in a given course will be used in computing a student's cumulative grade point average if the student has completed the course more than once and previously received a grade or grades below C in that course.

The previous grade (or grades) will not be used in computation of the cumulative grade point average, but it will remain a part of the academic record and will appear on any transcript.

A student can remove from his/her cumulative average a course grade of C-, D+, D, D- or F if the student repeats the equivalent course at the University of Nebraska and receives a grade other than P (pass), I (incomplete), N (no pass), W (withdrawn), or NR (no report). If a course is no longer being offered, it is not eligible for the revised grade point average computation process.

For complete procedures and regulations, see the *Schedule of Classes and the Summer Sessions Bulletin*.

## Academic Reinstatement (Appeals)

Students who are academically dismissed from the University may appeal that dismissal to the University Academic Standards Committee. Students wishing to initiate the appeal should do so as quickly as possible. Contact the CASNR Dean's Office, 103 Agricultural Hall.

No consideration of a dismissal appeal will be given until all financial blocks/holds have been removed. If all financial blocks/holds have not been removed before the deadline, the committee will not consider an appeal.

## Readmitted Students

A student who has been academically dismissed from UNL will be denied enrollment privileges for at least two consecutive semesters (the four summer sessions count as one semester). A dismissed student may apply for readmission to UNL for the semester following the mandatory "stop-out" period or any subsequent semesters. Applications for readmission will be evaluated by the Office of Admissions in accordance with criteria established by each of the colleges. Decisions regarding specific college readmission will be made by the individual college in which the student seeks to enroll after readmission.

## Dual Degrees from the College of Agricultural Sciences and Natural Resources

Students in CASNR may earn a bachelor of science degree in more than one program. They must complete all requirements for both programs.

## Dual Degrees from CASNR and Other UNL Colleges

Students in other colleges may earn a bachelor of science from CASNR and a degree from another UNL college. Students will need to consult with both colleges to ensure all requirements are satisfied.

## Grade Appeals

The CASNR Curriculum Committee hears appeals from students on grades received in the College. Such appeals, however, will be heard by the committee only after the student has appealed without satisfaction to the course instructor and the departmental grade appeals committee. A student who wishes to appeal to the committee will notify the dean or the committee chair in writing and will include in the notice a statement of the grounds of appeal. Both the student and the instructor will be given an opportunity to present materials to the committee in the presence of each other.

## Removal of Deficiencies

Deficiencies in the required entrance subjects can be removed by completion of specified courses in the University or by correspondence.

The Office of Admissions, Alexander Building (east entrance), City Campus, provides information to new students on how deficiencies can be removed.

Students who enroll with deficiencies are expected to remove the deficiencies within their first 30 credit hours or, if longer, during the student's first continuous enrollment period of 12 months (one fall semester, one spring semester, and a summer session) excluding foreign language. Students have up to 60 credit hours to remove foreign language deficiencies. Credit courses used to remove course deficiencies will have those credits used to satisfy UNL/CASNR graduation requirements. Students in CASNR who satisfactorily complete non-university credit courses to remove deficiencies cannot apply those credits toward a degree.

For University policy, see "Graduation Requirements" on page 16.

## Residency Requirement

At least 30 of the last 36 hours of credit must be registered for and completed in residence in the UNL or at least 90 hours total must be registered for and completed in residence at UNL.

## Substitutions and Waivers

Requests for substitutions and waivers involving courses that fall within the basic four-year curriculum must be filed before the start of the fall semester for December graduates, before the start of the spring semester for May graduates and prior to the last day of classes of the spring semester for August graduates. Forms are available in 103 Agricultural Hall, from the student adviser, or on the Web site.

## Graduate Course Work for Undergraduates

**Applied to Bachelors Degree.** Undergraduate students are not permitted to register at the 800 or 900 level except with permission of the Dean of Graduate Studies, 1100 Seaton Hall. Undergraduate students, generally seniors, may select graduate courses to fulfill degree requirements of their undergraduate degree, pending the approval of the Dean of Graduate Studies, graduate course instructor (Not Held for Graduate Credit form), undergraduate adviser, and departmental and college acceptance of the appropriate substitution/waiver for the undergraduate degree program. Students are required to pay graduate tuition. The grade in the graduate course and the credit hours are used to calculate both semester and cumulative GPA.

**Applied to Graduate Degree.** If an 800- or 900-level course is to be used for graduate credit, a Hold for Graduate Credit form must be completed in the Office of Graduate Studies. Holding graduate credit keeps a senior registered as a member of the undergraduate college and allows one to continue any undergraduate scholarship or financial

aid awarded. The graduate course credit hours and grade are not part of the undergraduate grade transcript. Courses taken before one graduates do not always transfer as graduate credit to other institutions nor can there be a guarantee from the Office of Graduate Studies that these courses would apply towards a particular program.

Please see your undergraduate adviser or refer to the Graduate Studies Bulletin for additional information.

## Transfer Credit Issues

Not more than 98 semester hours of credit from a four-year institution or another UNL college, can be applied toward programs in CASNR. A maximum of 66 hours may be transferred from a two-year college. Half of the credit needed for graduation can be earned through correspondence courses, but such credit does not count toward residence; no more than 6 hours can be counted among the last 36 credit hours earned.

CASNR accepts no more than 10 semester hours of grades below C transferred from colleges outside the University of Nebraska system. Grades below C can only be applied to free electives.

Applicants must have a minimum cumulative grade point average of C (2.0 on a 4.0 scale) and at least a C average in the last semester of college enrollment at the student's originating institution.

## Joint Academic Transfer Programs

The College of Agricultural Sciences and Natural Resources has agreements with many institutions to support joint academic programs. The transfer programs include dual degree programs and cooperative degree programs. Dual degree programs offer students the opportunity to receive a degree from a participating institution and also to complete requirements for a bachelor of science degree in CASNR. Cooperative programs result in a single degree from either UNL or the cooperating institution.

## Dual Degree Programs

### A to B Programs

The A to B Program, a joint academic program offered by the CASNR and participating community colleges, allows students to complete the first two years of a degree program at the participating community college and continue their education and study in a degree program leading toward a bachelor of science degree.

The A to B Program provides a basic knowledge plus specialized course work. Students transfer into CASNR with junior standing.

Depending on the community college, students enrolled in the A to B Program may complete the requirements for an associate of science or associate of applied science degree at the community college, transfer to UNL, and work toward a bachelor of science degree.

Participating community colleges and campuses include:

- Central Community College, Columbus, NE
- Central Community College, Hastings, NE

- Hawkeye Community College, Waterloo, IA
- McCook Community College, McCook, NE
- Metropolitan Community College, Omaha, NE
- Mid-Plains Community College, North Platte, NE
- Northeast Community College, Norfolk, NE
- Southeast Community College, Beatrice, NE
- Southeast Community College, Lincoln, NE
- Western Nebraska Community College, Scottsbluff, NE

### 3+2 Programs

Two specialized degree programs in **animal science** and **veterinary science** are offered jointly with an accredited college or school of veterinary medicine. These two programs permit CASNR animal science or veterinary science students to receive a bachelor of science degree from UNL with a degree in animal science or veterinary science after successfully completing two years of the professional curriculum in veterinary medicine at an accredited veterinary school. Students who successfully complete the 3+2 Program, must complete the "Application for Degree" form and provide transcripts to the Credentials Clerk, Office of Registration and Records, 107 Canfield Administration Building, UNL. Students should discuss these degree programs with their academic adviser.

### Cooperative Degree Programs

Academic credit from UNL and a cooperating institution is applied towards a four-year degree from either UNL (UNL degree-granting program) or the cooperating institution (non UNL degree-granting program). All have approved programs of study.

### UNL Degree-Granting Programs

A UNL degree-granting program is designed to provide students the opportunity to complete a two-year program of study at one of the four-year institutions listed below, transfer to CASNR and complete the requirements for a bachelor of science degree.

**Chadron State College.** Chadron State College offers a 2+2 program leading to a grassland ecology and management degree program.

**Peru State College.** A transfer program is available for students wanting to pursue a degree program leading to a bachelor of science degree.

**University of Nebraska at Kearney.** Transfer programs are available for students pursuing degree programs leading to a bachelor of science degree.

**University of Nebraska at Omaha.** The University of Nebraska at Omaha (UNO) cooperates with CASNR in providing four-semester pre-agricultural sciences, pre-natural resources, pre-food science and technology, and pre-horticulture transfer programs.

A student enrolled in these programs may transfer all satisfactorily completed academic credits identified in the suggested program of study, and enter CASNR to study toward a degree program

leading to a bachelor of science degree. The total program would require a minimum of four years or eight semesters (16 credit hours/semester or 128 credit hours).

UNL CASNR faculty teach horticulture and food science and technology courses at UNO to assist an urban population in better understanding the food processing, horticulture, and landscape horticulture industries.

For more information, contact Associate Professor Steven Rodie, Pre-Horticulture Program, University of Nebraska at Omaha, (402) 554-3752; and/or Billie Lefholtz, Dean's Office, CASNR, University of Nebraska-Lincoln, (800) 472-8800, ext. 2541.

### Non UNL Degree-Granting Programs

The CASNR cooperates with other institutions to provide course work that is applied towards a degree at the cooperating institution. Preprofessional programs offered by CASNR allow students to complete the first two or three years of a degree program at UNL prior to transferring and completing a degree at the cooperating institution.

**Chadron State College—Range Science.** The 3+1 Program in range science allows Chadron State College students to pursue a range science degree through Chadron State College. Students complete three years of course work at Chadron State College and one year of specialized range science course work (32 credit hours) at CASNR.

**Dordt College (Iowa) – Agricultural Education: Teaching Option.** This program allows students to pursue an Agricultural Education Teaching Option degree leading toward a bachelor of science in agricultural education. Students at Dordt College will complete 98 credit hours in the Agricultural Education: Teaching Option Transfer Program.

**Integrated Science.** The program is designed for students who are interested in a bachelor of science in the applied life sciences, agricultural sciences, natural resource sciences, or social sciences offered in the College of Agricultural Sciences and Natural Resources, but are uncertain about a specific degree program. Students may be in the program for two years (62 credit hours). Students may declare a degree program at any time, but must declare a degree program at the completion of 62 hours.

**Preforestry.** A preprofessional program in forestry consists of 60-70 credit hours. A program of study is developed for one or two years at UNL prior to transferring to the University of Missouri or another accredited forestry school. An agreement with the University of Missouri provides in-state tuition to Nebraska residents with the proper scholastic qualifications. Programs have also been developed to allow students from a cooperating institution to complete upper division course work in selected degree programs that can be applied to their degree program. CASNR students graduate from the cooperating institution.

**PreLaw.** Law schools prefer students with broad academic backgrounds. Accordingly, there is no "prelaw" designation. Study toward a **bachelor of science degree** is excellent prelaw curriculum.

There are no particular degree programs or courses students are advised to take to enhance their chances of admission to law school. Students should choose programs and courses that interest them. However, students should take many courses that require writing and complex readings. Students, especially those uncertain about law school, may want to take some courses that focus on law and the courts. While these courses will not enhance chances of admission, they will provide information about the legal system and the legal profession.

Prospective applicants are advised to take the Law School Admission Test (LSAT) during the summer before their last year or the fall of their last year. Information and application materials are available from the Career Services. The Official Guide to US Law Schools, available from the LSAT organization, contains material about the legal profession, the law school experience, the application process, and the individualized information on all American law schools approved by the American Bar Association.

CASNR students contemplating application to law school may contact Dr. David Aiken, adviser in the Department of Agricultural Economics, 103 Filley Hall.

**Preveterinary Medicine.** Two or more years of preveterinary medicine general education are required for individuals wishing to enter a four-year professional curriculum in veterinary medicine (DVM). Courses taken during the preprofessional education (approximately three years) must satisfy the prerequisites for the college of veterinary medicine of the student's choice.

Students are to select an appropriate field within which to work toward a college degree while concurrently working toward completion of the preprofessional requirements. Students are encouraged to consider courses of study with a degree program in veterinary science, animal science, food science and technology, biochemistry or other fields compatible with the preprofessional program leading to a bachelor of science degree. Students are expected to designate an acceptable degree program by the end of their sophomore year and to work with an adviser in that field. Students may also complete preveterinary prerequisites with a degree program in natural resources.

For more information, see Veterinary Medicine Pre-Professional Program on page 48.

### Requirements for Graduation

The College grants the bachelor of science degree in programs associated with agricultural sciences and natural resources. Students working toward a degree must earn at least 128 semester hours of credit. A minimum cumulative grade point average of C (2.0 on a 4.0 scale) must be maintained throughout the course of studies and is required for graduation.

### Application for a Degree

Each student who expects to receive a diploma must file an Application for Degree in Graduation Services, 109 Canfield Administration Building. A \$25 non-refundable application fee, payable to

UNL, must accompany the application. Announcements about deadline dates are posted on bulletin boards, the UNL Web site, and printed in the Daily Nebraskan.

Students are responsible for informing Graduation Services of their graduation plans, including their addresses, the manner in which they are completing their requirements such as by correspondence, by clearance of incompletes, by enrollment at another institution, by taking special examinations, etc., and of any later revision of such plans. Failure to follow this procedure may cause postponement of graduation until a later semester.

## Graduate Studies

Study beyond the undergraduate level may be highly desirable and may be required for those seeking technical or professional positions. The departments of CASNR offer abundant opportunities to those seeking advanced degrees in the Graduate College.

Graduate work leading to the masters degree is offered in the departments of agricultural economics; agricultural leadership, education and communication; agronomy and horticulture; animal science; biochemistry; biological systems engineering; entomology; food science and technology; plant pathology; statistics; veterinary and biomedical sciences; School of Natural Resources; the center for biological chemistry; and in the interdepartmental area of nutrition. A master of applied science degree is also available.

Graduate work leading to the doctor of philosophy degree is offered by the departments of agricultural economics; agricultural leadership, education and communication (offered jointly with the College of Education and Human Sciences); School of Natural Resources (agricultural meteorology and forestry, fisheries and wildlife); agronomy and horticulture; animal science; biological systems engineering/agricultural engineering; entomology; food science and technology; plant pathology (offered jointly with the School of Biological Sciences); statistics; veterinary and biomedical sciences; the center for biological chemistry (offered jointly with the College of Arts and Sciences); and in the interdepartmental area of nutrition.

Further information appears in the *Graduate Studies Bulletin*.

## Degree Programs and Areas of Study

### Undergraduate Degree Programs

Undergraduate students can combine their degree programs with minors offered through CASNR or other colleges, a teaching certificate, and/or the University Honors program. Most programs also offer the opportunity of graduate study. For information on earning a dual degree or multiple degrees, see "Dual Degrees from the College of Agricultural Sciences and Natural Resources" on page 42, "Dual Degrees from CASNR and Other UNL Colleges" on

page 42, and "Multiple Degrees" on page 45.

Following is a list of the degree programs leading to a **bachelor of science degree**, and preprofessional programs offered by the College with the names and office addresses of the department heads or program leaders. Requirements are stated later in this section.

### Degree Programs

#### Agribusiness

Ron Hanson  
204A Filley Hall

*Offered jointly with College of Business Administration*

#### Agricultural Economics

Dennis Conley  
102 Filley Hall

#### Agricultural Education

Mark Balschweid  
300 Agricultural Hall

#### Agricultural Journalism

Jason Ellis  
300 Agricultural Hall

#### Agronomy

Mark Lagrimini  
279D Plant Sciences

#### Animal Science

Sheila Scheideler  
C203 Animal Science

#### Applied Science

Steve Danielson  
211 Entomology

#### Biochemistry

Paul Black  
N200 Beadle Center  
*Offered jointly with the College of Arts and Sciences*

#### Environmental Restoration Science

Steve Comfort  
205 Kiesselbach Crops Research Laboratory

#### Environmental Studies

David Gosselin  
150A Hardin Hall  
*Offered jointly with the College of Arts and Sciences*

#### Fisheries and Wildlife

Larkin Powell  
419 Hardin Hall

#### Food Science and Technology

Rolando Flores  
143 Filley Hall

#### Food Technology for Companion Animals

Randy Wehling  
241 Food Industry Complex

#### Forensic Science

David Carter  
616 Hardin Hall

#### Grassland Ecology and Management

Walter Schacht  
347 Keim Hall

#### Grazing Livestock Systems

Martin Massengale  
306A Biochemistry Hall

#### Horticulture

Garald Horst  
377 Plant Sciences

#### Hospitality, Restaurant & Tourism Management

Lisa Pennisi  
300 Agriculture Hall  
*Offered jointly with the College of Education and Human Sciences*

#### Insect Science

Tiffany Heng-Moss  
201B Entomology

#### Mechanized Systems Management

Jack Schinstock  
201 L. W. Chase Hall

#### Natural Resource and Environmental Economics

Bruce Johnson  
314B Filley Hall

#### Plant Biology

Ellen Paparozzi  
392 Plant Science  
*Offered jointly with the College of Arts and Sciences*

#### Plant Protection Sciences

Fred Baxendale, James Partridge  
Plant Protection Sciences Committee  
203 Entomology

#### PGA Golf Management

Alan Baquet  
305 Biochemistry Hall

#### Turfgrass and Landscape Management

Robert Shearman  
377 Plant Sciences

#### Veterinary Science

David Hardin  
120 Veterinary Basic Sciences

#### Veterinary Technology

David Hardin  
120 Veterinary Basic Sciences  
*Offered jointly with the Nebraska College of Technical Agriculture*

#### Water Science

Aris Holz  
502 Hardin Hall

## Multiple Degrees

Students may complete requirements for more than one degree by declaring, prior to the last 30 hours of study, a dual or possibly a triple degree. This is made possible through a common core required for all CASNR students. Students may consider these options with their faculty advisers.

An adviser is assigned for each additional degree declared. Appropriate forms must be processed in 103 Agricultural Hall.

## Pre-Professional Programs

### Integrated Science

Dann Husmann  
103 Agricultural Hall

### Preforestry

Jim Brandle  
407 Hardin Hall

### Prelaw

David Aiken  
103D Filley Hall

### Preveterinary Medicine

David Hardin  
102 Veterinary Basic Sciences  
Sheila Scheideler  
C203 Animal Science

## Related Degree Programs

### Agricultural Engineering

Ron Yoder  
223 L. W. Chase Hall  
*Offered jointly with the College of Engineering*

### Biological Systems Engineering

Ron Yoder  
223 L. W. Chase Hall  
*Offered jointly with the College of Engineering*

### Landscape Architecture

Richard Sutton  
377 Entomology  
*Offered jointly with the College of Architecture*

## Professional Programs

### Certificate Programs

John Markwell  
103 Agricultural Hall

### Doctor of Plant Health

Gary Hein  
271 Plant Science

### Dual Degrees

Dann Husmann  
103 Agricultural Hall

## Honors Program

Madhavan Soundararajan  
N253 Beadle  
*The Honors Program is offered through the University Honors Program*

## Minors

Dann Husmann  
103 Agricultural Hall  
*(See "Minors" on page 46.)*

## Multiple Degrees

Dann Husmann  
103 Agricultural Hall

## Statistics

Walter Stroup  
340 Hardin Hall

## Teaching Certificate

Lloyd Bell  
300 Agricultural Hall

## Veterinary Medicine

David Hardin  
120 Veterinary Basic Sciences

## Honors Program

The College of Agricultural Sciences and Natural Resources encourages qualified students to participate in the University Honors Program which is a UNL-wide program. The College's honors students pursue degree programs offered by the College while completing the required honors courses.

All University Honors program students are expected to complete a mentored thesis project with a faculty member of their choosing. Students should enroll in AGRI 299H in the spring semester of their sophomore year. As a part of AGRI 299H, students will identify a faculty thesis mentor and write a thesis proposal with their faculty thesis mentor. Because of the breadth of degrees, the program relies on faculty mentors within individual degree programs to determine the criteria for the constitution of an undergraduate thesis in their area of endeavor. General guidance for mentors is provided as requested by Dr. Madhavan Soundararajan.

The Agricultural Research Division supports a competitive grants program to assist the College's Honors Program students in the pursuit of their mentored theses. Students may also seek support from UNL's Undergraduate Creative Activities and Research Experience (UCARE) program.

For more information about the University Honors Program, contact:

Dr. Madhavan Soundararajan  
University of Nebraska-Lincoln  
N253 Beadle  
PO Box 88664  
Lincoln, NE 68588-0664  
(402) 472-9802

Also see "Honors Convocation Recognition Requirements" on page 15 of this bulletin.

## Teaching Certification

Teacher certification is granted by the Nebraska Department of Education after first completing endorsement requirements in one or more approved areas(s). A list of approved endorsement areas offered at UNL can be found in "Endorsements" on page 256.

Through early planning and careful selection of courses, students may integrate endorsement requirements with CASNR graduation requirements. Students interested in obtaining teaching endorsements should contact their adviser, the chair of the teacher education committee in Agricultural Leadership, Education and Communication, or the Director of Student Services within the College of Education and Human Sciences, 233 Mabel Lee Hall, for details.

Endorsement in agricultural education may be obtained through completion of teaching option requirements (page 53) offered in the Department of Agricultural Leadership, Education and Communication. It is possible to complete biology endorsement requirements through a combined agricultural education-biology program.

Teacher certification requires: 1) at least two years recent full-time employment or the equivalent in accumulated part-time employment in agriculture/agribusiness occupations, at least one-fourth (25 percent) of which must be in production agriculture; or 2) at least one year of full-time agriculture/agribusiness employment or the equivalent in accumulated part-time employment and 360 or more hours of employment in agriculture/agribusiness occupations under the direction and supervision of a qualified and approved agriculture educator, at least one-fourth (25 percent) of which must be in production agriculture. Students entering the student teaching professional block must have a minimum cumulative GPA of 2.50 and have successfully passed the PPST.

## College Requirements

The minimum requirements of CASNR reflect the common core of courses that apply to students pursuing degrees in the college. Students should work with an adviser to satisfy ACE outcomes 1, 2, 3, 4, 6 and 10 with the college requirements.

	Hours
College Integrative Course .....	3
AGRI/NRES 103 (Intro to Agricultural & Natural Resource Systems).....	3
Mathematics and Statistics (beyond college algebra) .....	.5
Select from: MATH 102, 104, 106, 203, and STAT 218.	
NOTE: Proficiency at the college algebra level must be demonstrated either by a placement exam or through course work. If MATH 103 is taken, only 2 cr hrs can be counted toward this requirement. Students must take MATH 203 prior to STAT 218 to receive UNL credit for both MATH 203 and STAT 218. Students who transfer STAT 218 credit to UNL will not receive UNL credit for MATH 203.	
Communication.....	6
Written Communication.....	3
Select from: ENGL 150, 151, 254; JGEN 120, 200	
Communication and Interpersonal Skills electives....	3
Select from: ENGL 101, 150, 151, 252, 253, 254; ALEC 102; JGEN 120, 200, 300; COMM 109, 209, 212, 286	

<b>Natural Sciences.....</b>	<b>8-9</b>
Select from two of the following three area/courses:	
CASNR Approved Life Sciences .....	4
CHEM 105 Chemistry in Context I or CHEM 109 General Chemistry I .....	4
PHYS 141 Elementary General Physics (5 cr) or PHYS 151 Elements of Physics (4 cr) or PHYS 211 General Physics (4 cr) or MSYM 109 Physical Principles in Agriculture (4 cr) .....	4-5
<b>Economics, Humanities and Social Sciences.....</b>	<b>18</b>
ECON 211 or 212 or AECN 141 .....	3
ACE Courses.....	12
Select one course each from ACE outcomes 5, 7, 8, and 9. Select one elective in this area.....	3
<b>Major Requirements and Electives.....</b>	<b>88</b>
Including Capstone Course.....	3
<b>Minimum Credit Hours Required for Graduation</b>	<b>128</b>

## Courses of Instruction (AGRI)

**042. International or Professional Development Experience (0 cr)**  
Fld. *AGRI 042 requires permission from the College of Agricultural Sciences and Natural Resources (CASNR) Dean's Office and the department chair of the student's degree program. Pass/No Pass only.*  
Cooperative education in an established or organized international or professional development experience program in any College of Agricultural Sciences and Natural Resources curriculum.

**[ES][IS] 103. Introduction to Agricultural and Natural Resource Systems** (LIBR 110A, NRES 103) (3 cr I, II) Lec 2, rct 1. Agricultural and natural resource systems. The interrelationship and the impact of increased human involvement on these systems.

**(ACE 4) 115. Biotechnology: Food, Health and Environment** (3 cr) Lec 2, rct 1.  
Application of biotechnology to genetically engineer, identify, select or propagate microbes, plants or animals. Scientists who use biotechnology to solve problems with the environment, with our food system, or with human health.

**200. Introduction to Pesticides and Their Use** (2 cr I) Lec 2. *Completion of course will satisfy state and federal requirements for certification of private applicators applying "restricted use pesticides." Two field trips.*

Overview of pesticide uses and alternatives that influence the management of pest populations. Factors that must be considered in making decisions to utilize pesticides, including state and federal legal requirements.

**[ES] 271. An Introduction to Computer Applications in Agriculture** (3 cr I, II) Lec 2 lab 4. *Each student will complete an individual computer project selected and designed in cooperation with the instructor and/or major departmental adviser or counselor.* Computing and its application to agriculture. Fundamentals of DOS, word processing, spreadsheets, database management, computer graphics, networks, computer communications, and elements of selecting appropriate hardware and software. Emphasis on practical, agriculturally-oriented applications.

**(ACE 9) [ES][IS] 282. Introduction to Global Agricultural and Natural Resources Issues** (3 cr II) Lec/rct.  
Overview of global relationships in agriculture and natural resources that affect Nebraska, the United States, and the world. Emphasis on gaining perspectives of the social, technological, economic, environmental, and political issues impacting the world food system.

**299H. Honors Thesis Seminar** (1 cr II) Lec 1. Prereq: Admission to the University Honors Program or permission.  
Preparation for conducting an undergraduate project to be used for an Honors or undergraduate thesis. Students explore philosophical aspects of scientific inquiry, including history, the scientific method, and ethics in science. Topics such as individual approaches to research, the selection of projects, time commitments and sources of funding for scholarly work presented by University faculty.

**310. Study Tours in International Agriculture** (2-5 cr, max 5 I, II, III) Prereq: Permission. *Pass/No Pass only.*  
Individual or group educational experience combining classroom lectures, discussions, and/or seminars with tours to broaden the student's knowledge of specific aspects of agriculture in some foreign country. Choice of subject matter and coordination of on- and off-campus study is at the discretion of the instructor.

**311. Study Tours in US Agriculture** (1-5 cr, max 5 I, II, III)  
Prereq: Permission. *For current year's schedule of subject matter offering, contact the Dean's Office.*  
Individual or group educational experience combining classroom lectures, discussions, and/or seminars with off-campus tours to broaden the student's knowledge of specific aspects of US agriculture. Choice of subject matter and coordination of on- and off-campus study is at the discretion of the instructor.

(ACE 9) [ES][IS] 385. **Women, Gender and Science** (WMNS, NRES 385) (3 cr) Lec 3.  
For course description, see WMNS 385.

**388. Employment Seminar** (NRES 388) (1 cr I) Lec 1. Prereq: Sophomore standing. *Pass/No Pass only.*  
Efficient job-hunting. Resumes, cover letters, mock interviews, and dining etiquette.

**389. Agricultural Concerns Seminar** (1 cr II) Lec/disc 2. *Pass/No Pass only. Course may be repeated for credit only once.*  
Forum for the exchange of current information on rural issues and agricultural ethics. Includes guest speakers, film documentaries, group discussions, and panel discussions.

**400. Job Survival** (1 cr II) Lec 1. Prereq: Junior standing. AGRI/NRES 388 recommended. *Pass/No Pass only.*  
Job satisfaction, advancement strategies, benefits, and relocation.

**485. Investigations in Applied Science** (3 cr II) Lec 3. Prereq: Senior standing; completion of applied science degree core requirements. *AGRI 485 requires access to computer, Internet, and e-mail. AGRI 485 fulfills the capstone requirement for the applied science major.*  
Application and integration of scientific principles and knowledge gained from courses, peer to peer and student to faculty discussions, internships, and other aspects of the applied science degree program.

**496. Independent Study in Agricultural Sciences** (1-5 cr, max 5 I, II, III) Ind. Prereq: Advanced approval of the plan of work and permission.  
Individual or group projects in activities such as research, literature review, extension of course work, or preparation of teaching materials.

**810. Research Strategies in Agriculture** (1 cr I)

**\*888. Teaching Science** (1 cr I)

**\*897. Master of Agriculture Project** (AGRO, HORT \*897) (1-6 cr, max 6) Prereq: Admission to Master of Agriculture degree program.

## Capstone Course Requirement

A capstone course is required for each CASNR degree program. A capstone course is defined as a course in which students are required to integrate diverse bodies of knowledge to solve a problem or formulate a policy of societal importance. Capstone courses have the following characteristics:

- exposes students to an interdisciplinary approach
- integrative/synthesizing across the degree program's curriculum
- develops problem solving skills consistent with the profession
- development of basic competencies
- integration of societal, economic, ethical, scientific and professional aspects
- utilizes multiple instructional methodologies and formats

The intent of the CASNR capstone course requirement is to provide a synthesis experience within a degree program. Capstone courses

external to the degree do not meet the intent of the requirement.

## Certificates

### Leadership Certificate

Linda Moody  
200 Nebraska Union

### Legal Studies

David Aiken  
103 Filley Hall

### Meat Culinology (distance)

Steve Jones  
A213 Animal Science

## Minors

Minors in the College will consist of 18 hours in the minor area of study, including at least six hours at the 300 and/or 400 level. Alternatively, 12 hours of 300- and/or 400-level courses will meet the requirement. At the discretion of the department(s) responsible for the minor, up to three hours of independent study may be counted toward the minor. Departments may specify additional requirements for their minor(s).

The following is a list of minors offered through CASNR indicating the page number where the description of the minor can be found:

	Page
Agribusiness.....	49
Agricultural Economics.....	50
Agronomy.....	59
Animal Science.....	63
Applied Science.....	68
Biochemistry.....	69
Community Economics and Social Dynamics.....	52
Cooperative Extension.....	55
Energy Science.....	47
Environmental Communications.....	55
Environmental Education (ALEC).....	55
Environmental Studies.....	73
Food Science and Technology.....	79
Forensic Science.....	81
Fisheries and Wildlife.....	74
Grassland Ecology & Management.....	82
Horticulture.....	84
Insect Science.....	88
Integrated Pest Management.....	97
International Agriculture and Natural Resources.....	47
Landscape Architecture.....	85
Leadership and Communication.....	56
Mechanized Systems Management.....	89
Natural Resource & Environmental Economics.....	91
Soil Science.....	71
Veterinary Science.....	102
Water Science.....	103

**Filing for a Minor.** Students wishing to declare a minor, must file a new C-D-M-A (College-Degree-Major-Adviser) form with the Dean's Office prior to filing for graduation if the minor is exactly the same as that published in the student's Undergraduate Bulletin. If there are any variations from the published minor, then the student must file the "Application for a Minor" form with the Dean's Office.

**Minors in Other Colleges.** A student with a degree leading to a bachelor of science degree who wants to obtain a minor in a department in the College of Arts and Sciences should use the following procedure in making his/her request:

1. In consultation with the adviser, prepare the list of courses required for either Plan A or Plan B in the chosen minor as indicated in the College of Arts and Sciences section of this bulletin. Plan A indicates a single minor; Plan B indicates two minors with fewer hours in each subject than the number required for a single minor.
2. Submit the C-D-M-A form for the minor to the CASNR Dean's Office prior to the deadline for submitting the application for graduation.

Students who have questions related to the minor after it is declared should consult an adviser in the college through which it is offered. The minor will be recorded on the student's transcript.

## Energy Science Minor

**Coordinator:** Associate Dean John Markwell, 103

Agricultural Hall

**Professors:** Conley, Hudgins, Schinstock, Verma, Walters, Yoder

The Energy Science minor is designed to offer an educational component to University of Nebraska students that will prepare them with the knowledge, expertise, and background to successfully compete for positions with companies that are producing or developing renewable energy sources. The minor is for students who desire a broad understanding of energy related issues and an in-depth knowledge of energy in one or more of four elective thematic areas as well as for those seeking employment in agriculture, business/industry, communication, transportation, and government plus domestic use.

### Minor Requirements

A minor in Energy Science (ENSC) will include a minimum of 18 credit hours of energy-related courses including three core courses (ENSC 110 Energy in Perspective, ENSC 220 Introduction to Energy Systems, and ENSC 230 Energy and the Environment: Economics and Policy). The remaining energy-related courses must come from one or more of the four elective thematic tracks (Energy and Natural Resources; Plant and Animal Bioenergy; Energy Engineering; and Energy Economics, Policy, and Human Dimensions) or be approved by the student's academic adviser and the minor coordinator. Additionally, a 1-credit-hour Energy Seminar (AGRI 389) will be required, and an optional 1-credit-hour Nebraska Energy Study Tour (AGRI 311) and an optional 1-credit-hour Independent Energy Study (AGRI 496) will be offered. Completing each of the 1-credit-hour courses will allow a student to use those 3 credit hours in place of a course from one of the four thematic areas. At least 6 credit hours must be at the 300 or 400 level and up to 3 hours of energy-related independent study course work may be included.

## Courses of Instruction (ENSC)

### 110. Energy in Perspective (3 cr I) Lec 3.

Scientific principles and historical interpretation to place energy use in the context of pressing societal, environmental, and climate issues.

### 220. Introduction to Energy Systems (3 cr II) Lec 3. Prereq: ENSC 110.

Energy systems, sources, transformations, efficiency, and storage. Fossil fuels, biomass, wind, solar, nuclear, and hydrogen. Sustainability and environmental trade-off of different energy systems.

### 230. Energy and the Environment: Economics and Policy (3 cr II) Lec 3. Prereq: ENSC 110.

Introduction to the economics of energy. How the economic system determines production and consumption. The linkages between economic and environmental outcomes. How future energy use can be influenced by the economic, environmental, trade, and research policy.

Courses suitable for automatic inclusion in one of the four elective thematic areas have been identified and the list can be obtained from the minor coordinator or any of the minor advisers listed above. Other courses may be included with prior approval of the minor coordinator.

A student in consultation with the academic adviser and a minor adviser (chosen from those above) prepares a list of courses on the CASNR Application for Minor form, obtains the appropriate signatures and submits the minor form to the minor coordinator prior to deadline for submitting the application for graduation. Upon approval, the minor program will be forwarded to the director of Registration and Records, with a copy supplied to the student's major college. The minor will be recorded on the student's transcript upon graduation.

## International Agriculture and Natural Resources Minor

**Coordinator:** Professor Arlen Etling, 103 Agricultural Hall

**Professors:** Brink, Husmann, Francis, Mason, Schinstock, Peterson, Weller, Fulginiti

**Associate Professor:** Powell

**Assistant Professors:** Ellis, Thomas, Yiannaka

**Professor of Practice:** Hardin

**Undergraduate Adviser:** Swartz

The International Agriculture and Natural Resources minor is designed for students who seek a broad understanding of the nature and role of agriculture and natural resources in the integrated world economy and of the implications of world events for agriculture and natural resources in both the United States and abroad. The minor adds a global perspective to professional preparation. It is for students who desire a broad understanding of international trade and development issues as well as for those seeking employment in business firms or government agencies with international operations or interests.

Students typically build their minor program from courses organized around three areas: 1) a group of international courses in CASNR; 2) complimentary international courses offered in arts and sciences, and business administration; and 3) optional but highly recommended modern

language instruction or experience as a base for building international communications skills. Two minor plans are available. One plan requires 12 credits in courses at or above the 300 level while the other plan requires 18 credits, including a minimum of 6 credits in courses at or above the 300 level.

### 12-Credit-Hour Plan

- Overall 12 credits in approved courses\* at or above the 300 level
- Minimum 3 credits in CASNR courses other than *Independent Study*, AGRI 310 or NRES 315
- Maximum 6 credits from any one department or program
- Maximum 6 credits of modern languages at or above the 200 level
- Maximum 3 credits of *Independent Study* and AGRI 310 or NRES 315 combined

### 18-Credit-Hour Plan

- Overall 18 credits in approved courses\*
- Minimum 6 credits in CASNR courses
- Minimum 6 credits in courses at or above the 300 level
- Maximum 9 credits from any one department or program
- Maximum 6 credits of modern languages at or above the 200 level
- Maximum 3 credits of *Independent Study*
- Maximum 3 credits of AGRI 310 or NRES 315

A student in consultation with the academic adviser and a minor adviser (chosen from those above) prepares a list of courses on the CASNR Application for Minor form, obtains the appropriate signatures and submits the minor form to the minor coordinator prior to deadline for submitting the application for graduation. While students may apply during their senior year, planning for the minor and application are recommended earlier in order to get maximum benefit from the minor.

Upon approval, the minor program will be forwarded to the director of Registration and Records, with a copy supplied to the student's college. The minor will be recorded on the student's transcript upon graduation. Students interested in pursuing an International Agriculture and Natural Resources minor should contact the minor coordinator or the CASNR Dean's Office, 103 Agricultural Hall.

## Pre-Professional Programs

### Integrated Science Program

**Coordinator:** Associate Dean Dann Husmann, 103 Agricultural Hall

Many students are unsure of which degree program to choose when entering the university. In fact, over half of all students entering UNL change their degree program at least once. The following

program is available for students not yet ready to make the decision.

### Integrated Science

The courses listed below compose a nondegree program entitled Integrated Science. The program is designed for students who are interested in a bachelor of science degree in the applied life sciences, agricultural sciences, natural resource sciences, or social sciences offered in the College of Agricultural Sciences and Natural Resources, but are uncertain about a specific degree program. Such students will receive individualized advising and mentoring from a faculty member and be encouraged to participate in clubs and other pre-professional activities to help them decide which career path is right for them.

This list of suggested courses for the first semester should provide the student maximum flexibility while ensuring that courses contribute to any of the degree programs within the College as well as most programs in other colleges. During the first semester, students should contact Associate Dean Dann Husmann to identify an appropriate adviser(s) in a degree program(s) of their area of interest to plan appropriate courses for subsequent semesters. Students may be in the program for two years (62 credit hours). Students may declare a degree program at any time, but must declare a degree program at the completion of 62 hours.

#### Semester 1 Hours

ENGL 150 or 151 or JOUR 200.....	3
NRES/AGRI 103 Intro to Agricultural & Natural Resource Systems .....	3
BIOS 101 & 101L General Biology and Lab .....	4
MATH 101, 102, 104 or 106 .....	2-5
Comprehensive elective .....	3
<b>Total .....</b>	<b>15</b>

#### Options:

If interested in Natural Resources and Environmental Science:

NRES 101 Natural Resources Orientation (1 cr)

If interested in Economics:

AECN 141 for humanities or social science

If interested in physical sciences:

Physics 141, 211/221 or MSYM 109 for BIOS 101/101L

If math placement exam MATH 106:

Substitute STAT 218 (3 cr)

To learn about a particular degree program substitute humanities or social science with an entry-level course in one of the College disciplines.

### Preforestry

**Coordinator:** Professor James R. Brandle, School of Natural Resources, 407 Hardin Hall

Forestry deals with the development and use of forests and related lands for a variety of uses—wood, water, wildlife, forage, recreation, and aesthetics. Multiple use is the foundation upon which management of our national forests is based; foresters today, through their forest management programs, are

expected to provide a broad array of benefits to meet public demands. Students graduating from forestry programs find employment with federal, state, and local governments, and with private industry.

CASN R offers a two-year preforestry program, but does not offer a four-year forestry degree. Students must transfer at the end of their freshman or sophomore year. Graduate training in forestry is offered by the School of Natural Resources.

The preforestry curriculum consists of 60-70 hours selected from the courses listed below. Course selection is based on a student's background and career goals. A program of study will be developed by the student and the adviser that involves one or two years at the University of Nebraska before transferring to the University of Missouri or another accredited forestry school. If a student desires to enter the University of Nebraska and later transfer to a forestry school other than the University of Missouri, the student should obtain information about the school's entrance requirements and curriculum as early as possible to avoid unnecessary loss of credit.

An agreement with the University of Missouri allows Nebraska residents with the proper scholastic qualifications to enter that institution without paying out-of-state fees. Under this program a student may enter the University of Missouri directly from high school or transfer after one or two years at the University of Nebraska. Students interested in pursuing a preforestry program should select courses from the list below:

	Hours
STAT 218 Intro to Statistics.....	3
BIOS 101 & 101L General Biology & Lab .....	4
BIOS 109 General Botany .....	4
BIOS 112 Intro to Zoology .....	4
CHEM 109 & 110 General Chemistry I & II.....	8
COMM 109 or COMM 209 Public Speaking .....	3
ECON 211 or ECON 212 Principles of Economics.....	3
ENGL 150 or ENGL 151 or ENGL 254 Composition....	3
GEOL 101 Physical Geology .....	4
JGEN 200 Technical Communication .....	3
MATH 104 Calculus for Managerial & Social Sciences (3 cr) or MATH 106 Analytical Geometry & Calculus I (5 cr) .....	3-5
NRES 101 Natural Resources Orientation .....	1
NRES/AGRI 103 Intro to Agricultural & Natural Resource Systems .....	3
PHYS/ASTR 151 Elements of Physics.....	4
SOIL 153 Intro to Soil Science.....	4

### PreLaw

Law schools prefer students with broad academic backgrounds. Accordingly, there is no "prelaw" designation. Study toward a bachelor of science degree is excellent prelaw curriculum. There are no particular degree programs or courses students are advised to take to enhance their chances of admission to law school. Students should choose programs and courses that interest them. However, students should take many courses that require writing and complex readings. Students, especially those uncertain about law school, may want to take some courses that focus on law and the courts. While these courses will not enhance chances of admission, they will provide information about the legal system and the legal profession.

Prospective applicants are advised to take the Law School Admission Test (LSAT) during the summer before their last year or the fall of their last year. Information and application materials are available from the Career Services. The Official Guide to US Law Schools, available from the LSAT organization, contains material about the legal profession, the law school experience, the application process, and the individualized information on all American law schools approved by the American Bar Association.

CASN R students contemplating application to law school may contact Professor David Aiken, adviser in the Department of Agricultural Economics, 103 Filley Hall.

### Veterinary Medicine Pre-Professional Program

**Head:** Professor David Hardin, Department of Veterinary and Biomedical Sciences, 120C Vet Basic Sciences

**Interim Head:** Professor Sheila Scheideler, Department of Animal Science, C203 Animal Sciences

Individuals wishing to enter the four-year professional curriculum leading to the degree, doctor of veterinary medicine (DVM), must first complete two or more years of preveterinary general education. Courses taken during preprofessional education must satisfy the entrance prerequisites for the college of veterinary medicine of the person's choice. At the University of Nebraska-Lincoln, it usually requires a minimum of three years to complete the preprofessional requirements, but students must declare an acceptable degree program at the conclusion of their sophomore year. Certain options in the veterinary science and veterinary technology degree programs meet the pre-veterinary requirements of colleges of veterinary medicine.<sup>5</sup> The student should discuss special variations and other colleges of interest with their academic adviser at the earliest possible date.

**The Preveterinary Program IS NOT a degree-granting program.** Completion of the preprofessional program alone in fulfilling the prerequisites for admission to a college or school of veterinary medicine does not result in the awarding of a degree from the University of Nebraska. Students are to select an appropriate field within which to work toward a college degree while concurrently working toward completion of preprofessional requirements. Students are encouraged to consider courses of study with a degree-granting program in veterinary science (biomedical science, microbiology options, or veterinary medicine options), veterinary technology, animal science, food science and technology, biochemistry or other fields compatible with the preprofessional program that leads to a bachelor of science degree. Students can also complete preveterinary prerequisites with a degree program in wildlife or environmental studies, leading to a bachelor of science degree. It is also possible to pursue these preveterinary requirements in degree-granting programs outside the College of Agricultural Sciences and Natural Resources, such as the College of Arts and Sciences.

Students are expected to designate an acceptable degree program by the end of their sophomore year and to work with an adviser in that field. Additional advisory support relating to pre-professional requirements and admission policies is provided by advisers within the College of Agricultural Sciences and Natural Resources, University of Nebraska-Lincoln.

The program utilizes an "Advising Plus" model which involves faculty from the Department of Veterinary and Biomedical Sciences (Laura Hardin, Rodney Moxley, and Michael Carlson) and the Department of Animal Science (Dennis Brink and Thomas Burkey). Team advising will be utilized to expose students to all the opportunities in animal health and assist them in identifying the appropriate degree program.

Students interested in veterinary medicine are encouraged to participate in the Pre-veterinary Club to learn about the exciting advancement and developments within the profession.

It is not recommended that preveterinary students take any courses on a Pass/No Pass basis (unless this is the only grading option for a given course, e.g. VBMS 101) because courses taken Pass/No Pass may not be accepted for preprofessional prerequisites. Letter grades are required to evaluate credentials of applicants for veterinary college admission.

## Degree Programs

### Agribusiness

**Program Director:** Professor Ron Hanson, Department of Agricultural Economics, 204 Filley Hall  
**Interim Head:** Professor Dennis Conley, Department of Agricultural Economics, 102 Filley Hall  
**Professors:** Aiken, Azzam, Conley, Fulginiti, Giannakas, Hanson, Johnson, Perrin, Peterson, Royer, Supalla  
**Associate Professors:** Mark, Yiannaka  
**Assistant Professors:** Lubben, Schoengold  
**Coordinator for Undergraduate Research:** Fulginiti

This program of study emphasizes the application of both business and economic principles to the problems/issues confronting agribusiness firms. Students will have an opportunity to pursue a rigorous program of study in both agricultural sciences and business administration courses leading to a career in a wide range of employment opportunities within the agribusiness field. With assistance from academic advisers, students can acquire depth and/or breadth in their program of study by selecting elective courses that meet their own individual interests.

Agribusiness students must complete at least 15 credit hours of agricultural economics courses for a grade (not Pass/No Pass).

Students completing an agribusiness degree program may not receive a second major in agricultural economics.

### Core Requirements

Hours

College Integrative Course ..... 3  
 AGRI/NRES 103 Intro to Agricultural & Natural Resource Systems ..... 3

<b>Mathematics and Statistics</b> ..... 6-8
MATH 104 Calculus for Managerial & Social Sciences (3 cr) <b>or</b> MATH 106 Analytical Geometry & Calculus I (5 cr) <b>or</b> MATH 106B Calculus I for Biology & Medicine (5 cr) ..... 3-5
STAT 218 Intro to Statistics (3 cr) <b>or</b> ECON 215 Statistics (3 cr) ..... 3
<b>Communications</b> ..... 9
Written Communication ..... 6
Select from: ENGL 150 or 151, 254; JGEN 200, 220, 300 (3 cr ea)
Oral Communication ..... 3
Select from: COMM 209, 286
<b>Natural Sciences</b> ..... 8
Select any two from:
BIOS 101 & 101L General Biology & Lab (recommended) (4 cr)
AGRO 131 & 132 Plant Science & Lab (4 cr)
CHEM 105 Chemistry in Context I <b>or</b> CHEM 109 General Chemistry (4 cr)
MSYM 109 Principles of Physics in Agriculture <b>or</b> PHYS 151 Elements of Physics (4 cr)
(BIOS 101 & 101L and CHEM 109 required for Food Products Marketing & Management option)
<b>Economics, Humanities and Social Sciences</b> ..... 18
AECN 141 <b>or</b> ECON 212 ..... 3
ECON 211 ..... 3
ACE Courses ..... 12
Select one course each from ACE outcomes 5, 7, 8, and 9.
<b>Total Core Requirements</b> ..... 44-46

### General Option

<b>Requirements</b> ..... 65-67
<b>Agricultural Economics</b> ..... 28
AECN 201 Farm & Ranch Management ..... 4
AECN 225 Agribusiness & Food Products Marketing <b>or</b> AECN 325 Marketing of Agricultural Commodities ..... 3
AECN 256 Agricultural Law <b>or</b> BLAW 372 Business Law I ..... 3
AECN 316 Agribusiness Management ..... 3
AECN 452 Agricultural Finance <b>or</b> FINA 361 Finance ..... 3
AECN Electives (at least 6 cr at the 300 level or above) ..... 9
Select one from:
AECN 401 Advanced Farm Management & Linear Programming (3 cr)
AECN 416 Advanced Agribusiness Management (3 cr)
AECN 420 International Food & Agricultural Trade (3 cr)
AECN 425 Agricultural Marketing in a Multinational Environment (3 cr)
AECN 435 Advanced Agricultural Marketing Management (3 cr)
AECN 445 Agricultural & Natural Resource Policy (3 cr)
AECN 453 Agricultural & Rural Property Appraisal (3 cr)
Agricultural Sciences and Natural Resources ..... 9
CASNR electives at the 200 level or above (including AGRO 153) (excluding AECN courses and ALEC 388) ..... 9
Supporting Courses ..... 28-30
ACCT 306 Survey of Accounting I (4 cr) <b>or</b> ACCT 201 & 202 Introductory Accounting I & II (6 cr) ..... 4-6
ECON 311 Intermediate Macroeconomics ..... 3
ECON 312 Intermediate Microeconomics ..... 3
ECON 417 Introductory Econometrics <b>or</b> MNGT 331 Operations & Resources Management <b>or</b> MNGT 245 Elementary Quantitative Methods ..... 3
MNGT 360 Managing Behavior in Organizations <b>or</b> MNGT 361 Personnel / Human Resources Management ..... 3
MRKT 341 Marketing ..... 3
CBA Electives (300 level or above; min 6 cr marketing) ..... 9
Free electives ..... 15-19
<b>Total Requirements for Graduation</b> ..... 128

NOTE: A minimum of 9 hours of course work with an international focus are required as part of the 128 hours. One 3-hour course must be selected from ACE outcome 9. Refer to the 2009-2010 *Agricultural Economics Undergraduate Student Handbook* for the remaining 6 hours.

### Marketing Option

<b>Requirements</b> ..... 65-67
<b>Agricultural Economics</b> ..... 28
AECN 201 Farm & Ranch Management ..... 4
AECN 225 Agribusiness & Food Products Marketing ..... 3
AECN 256 Agricultural Law <b>or</b> BLAW 372 Business Law I ..... 3
AECN 316 Agribusiness Management ..... 3
AECN 425 Agricultural Marketing in a Multinational Environment (3 cr)
AECN 452 Agricultural Finance or FINA 361 Finance ..... 3
Capstone Course - AECN 435 Advanced Agricultural Marketing Management ..... 3
AECN Electives (200 level or above) (excluding AECN 388) ..... 3
Select one from:
AECN 416 Advanced Agribusiness Management (3 cr)
AECN 420 International Food & Agricultural Trade (3 cr)
AECN 425 Agricultural Marketing in a Multinational Environment (3 cr)
AECN 436 Survey of Accounting I (4 cr) <b>or</b> ACCT 201 & 202 Introductory Accounting I & II (6 cr) ..... 4-6
ECON 311 Intermediate Macroeconomics ..... 3
ECON 312 Intermediate Microeconomics ..... 3
ECON 417 Introductory Econometrics or MNGT 331 Operations & Resources Management or MNGT 245 Elementary Quantitative Methods ..... 3
MNGT 360 Managing Behavior in Organizations or MNGT 361 Personnel / Human Resources Management ..... 3
MRKT 341 Marketing ..... 3
CBA Electives (300 level or above; min 6 cr marketing) ..... 9
Free electives ..... 15-19
<b>Total Requirements for Graduation</b> ..... 128

NOTE: A minimum of 9 hours of course work with an international focus are required as part of the 128 hours. One 3-hour course must be selected from ACE outcome 9. Refer to the 2009-2010 *Agricultural Economics Undergraduate Student Handbook* for the remaining 6 hours.

### Agricultural Banking and Finance Option

<b>Agricultural Sciences</b> ..... 34
AECN 201 Farm & Ranch Management ..... 4
AECN 325 Marketing of Agricultural Commodities ..... 3
AECN 256 Legal Aspects in Agriculture or BLAW 372 Legal Environment ..... 3
AECN 301 Farm Records & Income Tax Management ..... 3
AECN 452 Agricultural Finance ..... 3
Capstone Course - AECN 453 Agricultural & Rural Property Appraisal ..... 3
AECN 495A Internship in Agricultural Finance & Banking ..... 3
AECN Elective - 200 level or above (excluding AECN 388) ..... 3
CASNR Electives - AGRO 153 or any 200 level or above (excluding AECN courses and ALEC 388) ..... 9
Supporting Courses ..... 31-33
ACCT 306 Survey of Accounting I (4 cr) <b>or</b> ACCT 201 & 202 Introductory Accounting I & II (6 cr) ..... 4-6
ACCT 308 Managerial Accounting or 313 Intermediate Accounting ..... 3

FINA 260 Personal Finance.....	3
<i>Select one of the following: FINA 365 Financial Institutions &amp; Markets or FINA 363 Investment Principles.....</i>	
MNGT 245 Elementary Quantitative Methods or MNGT 331 Operations & Resources Management.....	3
ECON 417 Introductory Econometrics or ECON 311 Intermediate Macroeconomics .....	3
ECON 312 Intermediate Microeconomics.....	3
MNGT 361 Personnel/Human Resources Management.....	3
FINA 461 Advanced Finance or FINA 465 Bank Management or FINA 463 Security Analysis.....	3
CBA Electives (300 or 400 level) .....	3
Free Electives.....	15-19
<b>Total Requirements for Graduation .....</b>	<b>128</b>
<b>NOTE:</b> A minimum of 9 hours of course work with an international focus are required as part of the 128 hours. One 3-hour course must be selected from ACE outcome 9. Refer to the <i>2009-2010 Agricultural Economics Undergraduate Student Handbook</i> for the remaining 6 hours.	
<b>Livestock Industries Option</b>	
<b>Natural Sciences .....</b>	<b>8</b>
BIOS 101 & 101L General Biology & Lab .....	4
CHEM 105 Chemistry in Context I or 109 General Chemistry .....	4
<b>Requirements.....</b>	<b>67-70</b>
Agricultural Economics.....	22
AECN 201 Farm & Ranch Management .....	4
AECN 225 Agribusiness & Food Products Marketing or AECN 325 Marketing of Agricultural Commodities.....	3
AECN 256 Agricultural Law or BLAW 372 Business Law I .....	3
AECN 316 Agribusiness Management.....	3
AECN Electives (at least 3 cr at the 300 level or above) .....	6
Select one from:.....	3
AECN 401 Advanced Farm Management & Linear Programming (3 cr)	
AECN 416 Advanced Agribusiness Management (3 cr)	
AECN 420 International Food & Agricultural Trade (3 cr)	
AECN 425 Agricultural Marketing in a Multinational Environment (3 cr)	
AECN 435 Advanced Agricultural Marketing Management (3 cr)	
AECN 453 Agricultural & Rural Property Appraisal (3 cr)	
Animal Science .....	14-15
ASCI 250 Animal Management.....	3
ASCI 485 Animal Systems Analysis .....	3
ASCI 200-level Elective.....	3
ASCI 300-level Elective.....	3
ASCI 400-level Elective.....	2-3
Agricultural Sciences and Natural Resources.....	6
CASNR electives at the 200 level or above (including AGRO 153) (excluding AECN courses and ALEC 388) .....	
Supporting Courses.....	25-27
ACCT 306 Survey of Accounting (4 cr) or ACCT 201 Intro to Accounting I & ACCT 202 Intro to Accounting II (6 cr).....	4-6
ECON 311 Intermediate Macroeconomics .....	3
ECON 312 Intermediate Microeconomics.....	3
AECN 401 Advanced Farm Management & Linear Programming or ECON 417 Introductory Econometrics or MNGT 331 Operations & Resources Management or MNGT 245 Elementary Quantitative Methods .....	3
MNGT 360 Managing Behavior in Organizations or MNGT 361 Personnel/ Human Resources Management.....	3
MRKT 341 Marketing.....	3
CBA Electives (min 3 cr at the 300 level or above) .....	6
Free electives.....	12-17
<b>Total Requirements for Graduation .....</b>	<b>128</b>

**NOTE:** A minimum of 9 hours of course work with an international focus are required as part of the 128 hours. One 3-hour course must be selected from ACE outcome 9. Refer to the *2009-2010 Agricultural Economics Undergraduate Student Handbook* for the remaining 6 hours.

## Food Products Marketing and Management Option

<b>Requirements.....</b>	<b>69-71</b>
Chemistry.....	4
CHEM 110 General Chemistry II.....	4
Agricultural Sciences .....	33
FDST 131 The Science of Food.....	3
FDST 205 Food Composition & Analysis.....	3
AECN 201 Farm & Ranch Management .....	4
AECN 225 Agribusiness & Food Products Marketing.....	3
FDST 280 Contemporary Issues in Food Science .....	2
FDST 372 Food Safety and Sanitation .....	3
AECN 316 Agribusiness Management.....	3
ASCI 210 Animal Products .....	3
Select one from:.....	3
AECN 416 Advanced Agribusiness Management or AECN 420 International Food & Agricultural Trade or AECN 425 Agricultural Marketing in a Multinational Environment or AECN 435 Advanced Agricultural Marketing Management	
AECN 495B Internship in Food Products Marketing Management .....	3
AECN 471 Agricultural Marketing & Product Development I .....	1
AECN 472 Agricultural Marketing & Product Development II .....	2
Supporting Courses.....	32-34
ACCT 306 Survey of Accounting (4 cr) or ACCT 201 Intro to Accounting I & ACCT 202 Intro to Accounting II (6 cr).....	4-6
HRTM 171 Intro to Hospitality, Restaurant, & Tourism Management .....	3
MNGT 331 Operations & Resources Management.....	3
NUTR 370 Food Production Management.....	3
ECON 311 Intermediate Macroeconomics .....	3
ECON 312 Intermediate Microeconomics.....	3
MNGT 361 Personnel/Human Resources Management.....	3
MNGT 365 Managing Diversity in Organizations.....	3
MRKT 341 Marketing.....	3
MRKT 347 Marketing Communication Strategies .....	3
MRKT 443 Consumer Behavior .....	3
Free electives.....	11-15
<b>Total Requirements for Graduation .....</b>	<b>128</b>

## Agribusiness Minor

	Hours
ACCT 201 Introductory Accounting I.....	3
AECN 201 Farm & Ranch Management .....	4
AECN 325 Marketing of Agricultural Commodities or AECN 225 Agribusiness & Food Products Marketing.....	
AECN 316 Agribusiness Management.....	3
AECN 452 Agricultural Finance or FINA 361 Finance .....	3
MNGT 360 Managing Behavior in Organizations or MNGT 361 Personnel/Human Resource Management .....	3
<b>Total .....</b>	<b>19</b>

## Preparation for Graduate Studies

Students who intend to pursue a masters degree in the Department of Agricultural Economics should consult with their adviser to avoid any graduate entrance deficiencies.

## Agricultural Economics

**Interim Head:** Professor Dennis Conley, Department of Agricultural Economics, 102 Filley Hall  
**Professors:** Aiken, Azzam, Conley, Fulginiti, Giannakas, Hanson, Johnson, Perrin, Peterson, Royer, Supalla  
**Associate Professors:** Mark, Yiannaka  
**Assistant Professors:** Lubben, Schoengold  
**Coordinator for Undergraduate Research:** Fulginiti

Students in agricultural economics learn to apply economic and financial principles to the analysis of problems in agriculture, business, government, and other areas. The degree program offers students the opportunity to gain skills in planning, evaluation, and management that are useful in both private- and public-sector enterprises.

Agricultural economics students must choose one of four available options (General, Farm and Ranch Management, Public Policy, or Quantitative Analysis) and must complete at least 15 credit hours of agricultural economics courses for a grade (not Pass/No Pass).

Students completing an agricultural economics degree may not receive a second degree in agribusiness.

## Core Requirements

	Hours
<b>College Integrative Course .....</b>	<b>3</b>
AGRI/NRES 103 Intro to Agricultural & Natural Resource Systems .....	3
<b>Mathematics and Statistics .....</b>	<b>6-8</b>
MATH 104 Calculus for Managerial & Social Sciences (3 cr) or MATH 106 Analytical Geometry & Calculus I (5 cr) or MATH 106B Calculus I for Biology & Medicine (5 cr) .....	3-5
STAT 218 Intro to Statistics (3 cr) or ECON 215 Statistics (3 cr) .....	3
<b>Communications .....</b>	<b>9</b>
Written Communication.....	6
Select from: ENGL 150 or 151, 254; JGEN 200, 220, 300 (3 cr ea)	
Oral Communication .....	3
Select from: COMM 209, 286	
<b>Natural Sciences .....</b>	<b>8</b>
Select any two from:	
BIOS 101 & 101L General Biology & Lab (recommended) (4 cr)	
AGRO 131 & 132 Plant Science & Lab (4 cr)	
CHEM 105 Chemistry in Context I or CHEM 109 General Chemistry (recommended) (4 cr)	
MSYM 109 Principles of Physics in Agriculture or PHYS 151 Elements of Physics (4 cr)	
<b>Economics, Humanities and Social Sciences .....</b>	<b>18</b>
AECN 141 or ECON 212 .....	3
ECON 211 .....	3
ACE Courses.....	12
Select one course each from ACE outcomes 5, 7, 8, and 9.	
<b>Total Core Requirements .....</b>	<b>44-46</b>

## General Option

The General Option is designed for students with interests in a wide range of issues in agricultural economics. It allows flexibility in course selection so that students can develop programs related to their particular needs and career directions.

	Hours
<b>Requirements.....</b>	<b>55-57</b>
Agricultural Economics.....	24
Must include at least 12 hours at the 300 level or above and at least one course designated capstone. Excludes AECN 388.	

Agricultural Sciences and Natural Resources.....	12
CASNR electives ( <i>including AGRO 153</i> ) ( <i>excluding AECN courses and ALEC 388</i> ), at least 9 hours at the 200 level or above	
Supporting Courses.....	19-21
ACCT 306 Survey of Accounting I (4 cr) or ACCT 201 & 202 Introductory Accounting I & II (6 cr).....	4-6
ECON 311 Intermediate Macroeconomics ..... 3	
ECON 312 Intermediate Microeconomics ..... 3	
AECN 401 Advanced Farm Management & Linear Programming or ECON 417 Introductory Econometrics or MNGT 331 Operations & Resource Management or MNGT 245 Elementary Quantitative Methods ..... 3	
CBA or Agricultural Economics electives (200 level or above).....	6
Free Electives .....	25-29
Total Requirements for Graduation .....	128

**NOTE:** A minimum of 9 hours of course work with an international focus are required as part of the 128 hours. One 3-hour course must be selected from ACE outcome 9. Refer to the *2009-2010 Agricultural Economics Undergraduate Student Handbook* for the remaining 6 hours.

## Farm and Ranch Management Option

The Farm and Ranch Management Option emphasizes economics and business aspects of production, marketing, and management in agriculture. It prepares students for management of farm and ranch businesses and for professional careers dealing closely with production agriculture.

	Hours
Requirements.....	66-68
Agricultural Economics.....	25
AECN 201 Farm & Ranch Management ..... 4	
AECN 256 Agricultural Law ..... 3	
AECN 301 Farm Accounting, Analysis & Tax Management.....	3
AECN 325 Marketing of Agricultural Commodities.....	3
AECN 401 Advanced Farm Management & Linear Programming <sup>1</sup> .....	3
AECN 435 Advanced Agricultural Marketing Management.....	3
AECN 452 Agricultural Finance .....	3
AECN 453 Agricultural & Rural Property Appraisal.....	3
Supporting Courses.....	13-15
ACCT 306 Survey of Accounting I (4 cr) or ACCT 201 & 202 Introductory Accounting I & II (6 cr).....	4-6
ECON 311 Intermediate Macroeconomics ..... 3	
ECON 312 Intermediate Microeconomics ..... 3	
MNGT 360 Managing Behavior in Organizations or MNGT 361 Personnel/ Human Resource Management .....	3
Agricultural Sciences .....	19
ASCI 100 Fundamentals of Animal Biology & Industry.....	4
ASCI 250 Animal Management.....	3
AGRO 131 & 132 Plant Science & Lab.....	4
AGRO 153 Soil Resources.....	4
AGRO 315 Genetics .....	4
Agricultural Specialization .....	9
Select either agronomy or animal science specialization	
Agronomy Specialization ( <i>min of 6 cr at 300 &amp; 400 level</i> ).....	9
Select from:	
AGRO 204 Resource Efficient Crop Management (3 cr)	
AGRO 240 Forage Crop & Range Management (3 cr)	
AGRO 269 Principles of Soil Management (3 cr)	
AGRO 366 Soil Nutrient Relationships (4 cr)	
AGRO 405 Crop Management Strategies (3 cr)	
AGRO 408 Microclimate: The Biological Environment (3 cr)	
AGRO 426 Invasive Plants (3 cr)	
AGRO 431 Site-specific Crop Management (3 cr)	
AGRO 435 Agroecology (3 cr)	

Animal Science Specialization ( <i>min of 6 cr at 300 &amp; 400 level</i> ) .....	9
Choose from any 200 level or higher ASCI courses.	
Free Electives .....	14-18
Total Requirements for Graduation .....	128

**NOTE:** A minimum of 9 hours of course work with an international focus are required as part of the 128 hours. One 3-hour course must be selected from ACE outcome 9. Refer to the *2009-2010 Agricultural Economics Undergraduate Student Handbook* for the remaining 6 hours.

## Public Policy Option

The Public Policy Option emphasizes the economic analysis of public policy issues related to agriculture. It prepares students for careers in public-sector agencies, legislative offices, international organizations, and private sector organizations.

	Hours
Requirements.....	60
Public Policy Economics .....	42
AECN 445 <sup>1</sup> Agricultural & Natural Resource Policy Analysis .....	3
AECN Electives.....	9
Policy Economics <i>Select two courses from:</i> .....	6
ECON 371 Elements of Public Finance (3 cr)	
ECON 426 Government Intervention in Markets (3 cr)	
ECON 471 Public Finance (3 cr)	
ECON 472 Efficiency in Government (3 cr)	
NRES 323 Natural Resources Policy (3 cr)	
POLS 235 Public Policy Concepts & Processes (3 cr)	
POLS 236 Public Policy Analysis: Methods & Models (3 cr)	
POLS 417 Policy & Program Evaluation (3 cr)	
Law & Administration <i>Select two courses from: ...</i> 6	
AECN 256 Legal Aspects in Agriculture (3 cr)	
AECN 276 Rural Sociology (3 cr)	
AECN 357 Natural Resources & Environmental Law (3 cr)	
BLAW 371 Legal Environment (3 cr)	
POLS 210 Bureaucracy & the American Political System (3 cr)	
POLS 469 International Law (3 cr)	
Resource Economics <i>Select two courses from:</i> .....	6
AECN 265 Resource & Environmental Economics I (3 cr)	
AECN 357 Natural Resource & Environmental Law (3 cr)	
AECN 465 Resource & Environmental Economics II (3 cr)	
ECON 340 Intro to Urban/Regional Economics (3 cr)	
NRES 323 Natural Resources Policy (3 cr)	
NRES 423 Integrated Resources Management (3 cr)	
International Economics <i>Select two courses from:</i> .....	6
AECN 420 International Food & Agricultural Trade (3 cr)	
AECN 425 Agricultural Marketing in a Multinational Environment (3 cr)	
AECN 467 Pro-seminar in International Relations (3 cr)	
ECON 321 Intro to International Economics (3 cr)	
ECON 421 International Trade (3 cr)	
ECON 422 International Finance (3 cr)	
POLS 459 International Political Economy (3 cr)	
POLS 474 Comparative Institutions (3 cr)	
Development Economics <i>Select two courses from:</i> .....	6
AECN 346 World Food Economics (3 cr)	
AECN 367 Agricultural Development in Developing Countries (3 cr)	
AECN 376 Rural Community Economics (3 cr)	
ANTH 474 Applied & Development Anthropology (3 cr)	
ECON 322 Intro to Developmental Economics (3 cr)	

ECON 323 The Development of Latin America (3 cr)	
ECON 340 Intro to Urban/Regional Economics (3 cr)	
ECON 423 Economy of the Less Developed Countries (3 cr)	
POLS 272 Politics of the Non-Western World (3 cr)	
Supporting Courses .....	18
ECON 311 Intermediate Macroeconomics ..... 3	
ECON 312 Intermediate Microeconomics ..... 3	
ECON 417 Introductory Econometrics or MNGT 331 Operations & Resource Management or MNGT 245 Elementary Quantitative Methods ..... 3	
CASNR Electives .....	9
Select 200 level or above including SOIL 153; excluding agricultural economics courses and ALEC 388.	
Free Electives .....	22-24
Total Requirements for Graduation .....	128

**NOTE:** A minimum of 9 hours of course work with an international focus are required as part of the 128 hours. One 3-hour course must be selected from ACE outcome 9. Refer to the *2009-2010 Agricultural Economics Undergraduate Student Handbook* for the remaining 6 hours.

## Quantitative Analysis Option

The Quantitative Analysis Option is designed for students intending to pursue graduate study of agricultural economics or related areas.

	Hours
Requirements.....	75-77
Agricultural Economics.....	24
Must include at least 12 hours at the 300 level or above and at least one course designated <i>capstone</i> . Excludes AECN 388.	
Agricultural Sciences and Natural Resources.....	12
CASNR electives (including AGRO 153) (excluding agricultural economics and ALEC 388), at least 9 hours at the 200 level or above (12 cr)	
Supporting Courses .....	34-36
ACCT 306 Survey of Accounting I (4 cr) or ACCT 201 & 202 Introductory Accounting I & II (6 cr).....	4-6
ECON 311 Intermediate Macroeconomics ..... 3	
ECON 312 Intermediate Microeconomics ..... 3	
AECN 401 Advanced Farm Management & Linear Programming or MNGT 331 Operations & Resource Management or MNGT 245 Elementary Quantitative Methods ..... 3	
ECON 417 Introductory Econometrics ..... 3	
MATH 106 Analytical Geometry & Calculus I .. 5	
MATH 107 Analytical Geometry & Calculus II .. 5	
MATH 208 Analytical Geometry & Calculus III .. 4	
STAT 380 Statistics and Applications ..... 3	
CBA or Agricultural Economics electives (200 level or above).....	6
Free Electives .....	10-14
Total Requirements for Graduation .....	128

**NOTE:** A minimum of 9 hours of course work with an international focus are required as part of the 128 hours. One 3-hour course must be selected from ACE outcome 9. Refer to the *2009-2010 Agricultural Economics Undergraduate Student Handbook* for the remaining 6 hours.

## Agricultural Economics Minor

	Hours
AECN 201 Farm & Ranch Management .....	4
AECN 325 Marketing of Agricultural Commodities or AECN 225 Agribusiness & Food Products Marketing .....	3
AECN 265 Resource & Environmental Economics I .. 3	
Additional agricultural economics courses (excluding AECN 141), with 6 hours at the 300 level or above (excluding AECN 388) .....	8

## Community Economics and Social Dynamics Minor

	Hours
<b>Core Courses.....</b>	<b>12</b>
AECN 276 (SOCI 241) Rural Sociology .....	3
AECN 376 Rural Community Economics .....	3
AECN 399 Case Study/Practicum .....	3
ECON 371 Elements of Public Finance or PUB ADMIN 8436/4430 (UNO) Municipal Administration.....	3
<b>Additional Courses .....</b>	<b>6</b>
<i>Select two:</i>	
ANTH 212 Intro to Cultural Anthropology (3 cr)	
CRPL 300 The Community & the Future (3 cr)	
CRPL 400 Intro to Planning (3 cr)	
CRPL 450 Social Planning & Policy (3 cr)	
CRPL 480 Economic Development Planning (3 cr)	
ECON 340 Intro to Urban-Regional Economics (3 cr)	
ECON 371 Elements of Public Finance (3 cr)	
PSYC 288 The Psychology of Social Behavior (3 cr)	
SOCI 242 Urban Sociology (3 cr)	
SOCI 446 Environmental Sociology (3 cr)	
<b>TOTAL.....</b>	<b>18</b>

### Preparation for Graduate Studies

Students who intend to pursue a graduate degree in agricultural economics may do so from any agricultural economics major or option. To avoid deficiencies, the undergraduate program should include MATH 106 Analytic Geometry and Calculus I and both ECON 311 Intermediate Macroeconomics and ECON 312 Intermediate Microeconomics.

### Courses of Instruction (AECN)

**100. New Student Career Orientation** (1 cr I) Prereq: First semester freshmen; major in agricultural economics or related discipline.

Academic success and development of leadership skills through involvement and activities on campus. Time management and study skills. Identify potential internship and career opportunities.

(ACE 6) **[ES] 141. Introduction to the Economics of Agriculture** (3 cr I, II) Lec 3. Prereq: Not recommended for students who have math entrance deficiencies.

Introductory course on the basic principles of agricultural economics. Production economics, principles of supply and demand, resource economics, world food situation, marketing of agricultural products, and agricultural public policy.

**201. Farm and Ranch Management** (4 cr I, II) Lec 4. Prereq: AECN 141 or ECON 212.

Various economic principles and business management concepts which are involved in the decision-making process when organizing and operating a farming/ranching operation. Includes production economics, record keeping systems, financial budgets and analysis, crop and livestock enterprise analysis, leasing arrangements, depreciation, farm business organizations, farm investment analysis, pasture/rangeland management, and production efficiency indicators.

**225. Agribusiness and Food Products Marketing** (MRKT 225) (3 cr I) Lec 3. Prereq: AECN 141 or ECON 210 or 212. *Pass/No Pass option not allowed for College of Business Administration majors.*

Agricultural marketing throughout the food channel from producers of agricultural commodities to processors of food products and the final consumer. Case problems dealing with processors, food wholesaling, retailing and food service firms.

**256. Legal Aspects in Agriculture** (3 cr I) Prereq: Sophomore standing. *AECN 256 course materials are on the World Wide Web.* Legal aspects of agriculture; taxation, contracts, property rights, buying and selling real estate, condemnation, land use regulations, leases, co-ownership, partnerships, corporations, commercial transactions, credit, liability, insurance, estate planning, water law, and agricultural regulations. A practical exposure to the legal institutions of Nebraska.

[ES][IS] **265. Resource and Environmental Economics I** (NREE 265) (3 cr I, II) Lec 3. Prereq: ECON 211; ECON 212 or AECN 141. Introduction to resource economics and the role of such concepts in natural resource management. The interface of economics and ecology in the context of both private and public decision making. Application of economic principles to actual natural resource/environmental issues.

[ES] **276. Rural Sociology** (SOCI 241) (3 cr II) Prereq: *Open to second semester freshmen and above.*

The rural environment and its people; its groups and associations; and its social institutions.

**301. Farm Accounting, Analysis, and Tax Management** (3 cr I) Lec 3. Prereq: ACCT 201 and 202, or 306.

Business record systems for farming and ranching. Financial statements; income tax and decision making; farm business and enterprise analysis.

**316. Agribusiness Management** (3 cr) Lec 3. Prereq: AECN 141 and ECON 312.

Business strategies for agribusiness firms under various market environments, asymmetric information problems that may lead to inefficient market outcomes. Game theory as a formal tool of studying conflict and cooperation in oligopolistic agri-food markets.

**325. Marketing of Agricultural Commodities** (MRKT 325) (3 cr I) Lec. Prereq: AECN 141 or ECON 212.

Operation and use of agricultural commodity markets and institutions as applied to enterprise and firm risk management. Cash; futures and futures option markets; basis; hedging; price discovery; fundamental analysis; and risk management strategies.

(ACE 9) [ES][IS] **346. World Food Economics** (3 cr I) Lec 3. Prereq: AECN 141 or ECON 210 or 212.

Description and economic evaluation of world food systems, including production, distribution, and consumption in developing and industrialized countries. Economic implications of alternative means for meeting world food needs, with emphasis on the social science aspects of the world food availability and needs, policies, and the economics of technological change.

**357. Natural Resource and Environmental Law** (NREE 357) (3 cr II) Lec 3. Prereq: Junior standing or permission; AGRI/NRES 103 or GEOG 181 recommended.

Environmental impact review; air and water pollution control; solid and hazardous waste control; endangered species and habitat preservation; land use regulation; state and federal water rights law.

(ACE 9) **367. Agricultural Development in Developing Countries** (3 cr I) Lec 3. Prereq: AECN 141 or ECON 210 or 212.

Exploration of the nature of traditional agriculture in developing countries of Africa, Asia, and Latin America and alternative approaches to accelerating its development. Explores the role of the agricultural sector in the overall development process.

[ES][IS] **376. Rural Community Economics** (3 cr II) Lec 3. Prereq: AECN 141 or ECON 210 or 212.

Application of economic and social principles and concepts relevant to understanding rural communities and the issues and problems they face. Public decision-making process and the skills necessary for constructive participation in community affairs.

[ES][IS] **388. Ethics in Agriculture and Natural Resources** (ALEC 388) (3 cr II)

For course description, see ALEC 388.

**399. Independent Study in Agricultural Economics** (1-5 cr, max 5) Prereq: Permission and advance approval of independent study contract at the start of each semester. *Pass/No Pass only.*

Individual or group projects in research, literature review, or extension of course work under supervision and evaluation of a departmental faculty member.

[IS] **401/801. Advanced Farm Management and Linear Programming<sup>1</sup>** (3 cr I) Lec 2, lab 2. Prereq: AECN 201.

The role of budgeting and linear programming in analyzing farm organization problems, theory of linear programming, linear program design, and analysis of linear programmed solutions to farm organization problems. Includes goal programming, multiple objective programming, risk programming, and financial modeling.

**416. Advanced Agribusiness Management 1** (3 cr II) Lec 2, lab 2. Prereq: AECN 316; ACCT 201 and 202; FINA 361 or AECN 452; MNGT 360 or 361. *Capstone course.* AECN 416 requires written and oral communication skills.

Conduct industry and business research in strategic management of an agribusiness. Internal and external factors and competitive forces affecting the firm. Integration of concepts from various economic and business disciplines.

(ACE 9, 10) [IS] **420. International Food and Agricultural Trade<sup>1</sup>** (3 cr II) Lec 3. Prereq: ECON 211 and either ECON 212 or AECN 141. Recommended: ECON 311 and 312.

Application of basic principles of international trade and finance to food and agricultural trade. Particular attention to current policy issues in agricultural trade such as the pros and cons of regional trade blocks, alternative agricultural and trade policies, the effects of exchange rate variation on agricultural trade, and trade and environmental protection.

(ACE 9, 10) [IS] **425. Agricultural Marketing in a Multinational Environment 1** (3 cr I) Prereq: 9 hrs agricultural economics and/or economics or permission.

Systems approach to evaluating the effects of current domestic and international political and economic events on agricultural markets.

(ACE 10) [IS] **435. Advanced Agricultural Marketing Management** (3 cr II) Lec 3. Prereq: AECN 201 and 325.

Marketing: farm, ranch, and agribusiness firm management. Risk management strategies using combinations of derivatives and insurance products. Advanced trading and merchandising strategies using fundamental and technical analysis.

(ACE 8, 10) [IS] **445. Agricultural and Natural Resource Policy Analysis<sup>1</sup>** (NREE 445) (3 cr II) Lec 3. Prereq: ECON 211; ECON 212 or AECN 141. ECON 311 and 312 recommended.

Introduction to the application of economic concepts and tools to the analysis and evaluation of public policies. Economic approaches to policy evaluation derived from welfare economics. Social benefit-cost analysis described and illustrated through applications to current agricultural and natural resource policy issues.

**452/852. Agricultural Finance** (3 cr I II) Lec 3. Prereq: AECN 201 or 4 hrs accounting.

Principles and concepts of financial management of farm and agribusiness firms developed. Various strategies for acquiring and using capital resources by the individual firm explored. Institutions providing the sources of agricultural credit are individually studied.

[IS] **453. Agricultural and Rural Property Appraisal I** (3 cr I) Lec 2, lab 2. Prereq: AECN 141, or ECON 210 or 212, AECN 201 and AGRO 153 recommended.

Valuation of agricultural and rural real estate traced from the underlying theory of value through full development of principles, practices, and factors used by the appraisal profession to estimate value. The income approach, the market data approach, and the cost approach to value developed in detail. Appraisal procedure analyzed for such special purposes as farm loans, tax assessment, and condemnation.

**456/856. Environmental Law** (NREE 456) (3 cr II) PSI. Prereq: Junior standing. AECN/NREE 357 recommended. *Offered odd numbered years. Available through Extended Education and Outreach.*

Administrative law, risk assessment, environmental impact review, Clean Air Act, Clean Water Act, non-point pollution control, wetlands regulations pesticide and toxic substance regulation, solid and hazardous waste regulation, drinking water protection, land use regulation, energy policy, and international environmental law.

**457/857. Water Law** (NREE, WATS 457) (3 cr II) PSI. Prereq: AECN/NREE 357. *Offered even numbered years. Available through Extended Education and Outreach.*

Environmental impact review; public trust doctrine; endangered species; land use controls; wetlands regulation; surface and ground water rights; Indian and federal water rights; impact of water quality regulations on water allocation.

**465/865. Resource and Environmental Economics II** (NREE, WATS 465) (3 cr I) Lec 3. Prereq: MATH 104 and one course in statistics. *Credit in AECN 865 will not count toward any advanced degree in ECON or AECN.*

Application of resource economics concepts and empirical tools to resource management problems. Public policy issues involving environmental quality, land, and water management.

<sup>1</sup> Capstone course.

**467. Pro-seminar in International Relations I** (ANTH, HIST 479/879; ECON, POLS, SOCI 466/866; GEOG 448/848) (3 cr) Prereq: Permission. Open to students with an interest in international relations. For course description, see POLS 466/866.

**\*471. Agricultural Marketing and Product Development I** (1 cr I) Ind. Prereq: Junior standing or permission. AECN 225 recommended.

Selection of an agriculturally related product or service and the development of a comprehensive marketing plan. Market analysis of physical, economic and financial feasibility and formalization of an effective promotional product campaign.

**\*472. Agricultural Marketing and Product Development II** (2 cr II) Ind. Prereq: Junior standing or permission; AECN 471. Further refinement in the development of marketing plan from AECN 471. Condensation of marketing plan into executive summary and preparation of professional oral presentation. Extensive interaction with the local agribusiness community and participation in national agri-marketing competition.

**495A. Internship in Agricultural Financing and Banking** (3 cr) Fld. Prereq: Junior standing; ABUS major with Agricultural Finance and Banking option. *AECN department permission is required before registering for AECN 495A.*

Internship experience in agricultural finance, banding, lending, or management through employment in a financial institution.

**495B. Internship in Food Products Marketing Management** (3 cr) Fld. Prereq: Junior standing; ABUS major with Food Products Marketing Management option. *AECN department permission is required before registering for AECN 495B.*

Internship experience in food products marketing, supply chain and firm management, and related areas through employment in agribusiness and food products production or marketing firms.

**499H. Honors Thesis** (3-6 cr, max 6 I, II, III) Prereq: Admission to the University Honors Program and permission, AGRI 299H recommended.

Conduct a scholarly research project and write a University Honors Program or undergraduate thesis.

**804. Agricultural Law** (LAW 704) (3 cr II) Lec 3.

**812. Organization and Performance of Agricultural Markets** (3 cr II) Lec 3. Prereq: AECN 815 or ECON \*873.

**814. Agricultural Price Analysis** (3 cr II) Lec 3. Prereq: AECN/ ECON \*873 and ECON 817.

**815. Analytical Methods in Economics and Business** (ECON 815) (3 cr) Prereq: MATH 104 or 106.

**818. Taxation—Farm and Ranch** (LAW 618) (3 cr II) Lec 3. Prereq: LAW 637.

**827. Static and Dynamic Optimization Methods** (2 cr II) Lec 2. Prereq: AECN/ECON 815 or permission.

  A. Static Optimization with Mathematical Programming  
  B. Dynamic Optimization

**832. Economics of Agricultural Production** (3 cr I) Lec 3. Prereq: AECN 201 or 203, MATH 106.

**\*840. Applied Welfare Economics and Public Policy** (3 cr II) Lec 3. Prereq: AECN/ECON \*873.

**841. Environmental Law** (LAW 641) (3 cr I) Lec 3.

**\*868. Advanced Resource and Environmental Economics** (3 cr I) Lec 3. Prereq: AECN/ECON \*873, AECN 865, ECON 817.

**873. Microeconomic Models and Applications** (ECON \*873) (3 cr) Prereq: ECON 211, 212, and 215. This course is intended for MA Option II students and others who do not plan to proceed to PhD studies.

**876. Water Law, Planning and Policy** (LAW 776) (3 cr II) Lec 3.

**883. Ecological Economics** (NRES 883) (3 cr) Prereq: AECN 141 or ECON 212 or equivalent. Graduate students with AECN/ ECON 873 or equivalent are encouraged to enroll with the course of study customized to individual needs.

**893. Law and Economics** (LAW 693) (3 cr II) Lec 3.

**\*896. Special Topics in Agricultural Economics** (1-6 cr per sem, max 6 cr) Prereq: 12 hrs agricultural economics or closely related areas and permission.

**898. Public Land and Natural Resources Law** (LAW 698) (3 cr I) Lec 3.

**899. Masters Thesis** (6-10 cr)

*Refer to the Graduate Bulletin for 900-level courses.*

## Agricultural Education

**Head:** Mark Balschweid, Department of Agricultural Leadership, Education and Communication; 300 Agricultural Hall

**Professors:** Bell, Etling, Husmann

**Associate Professors:** Barbuto, King

**Assistant Professors:** Ellis, Matkin, Pennisi

**Associate Professor of Practice:** Kraft

**Assistant Professor of Practice:** Phipps

**Senior Lecturer:** Moody

A degree in agricultural education is designed to prepare students with the necessary communication and interpersonal skills, leadership training, and knowledge of technical agriculture to be a teacher of agricultural education at the secondary or postsecondary level, or accept employment in agribusiness leading to positions in training and/or development. The degree provides good preparation for work in agricultural extension, positions in foreign service, and agricultural educators in business and industry. Many students graduate with a dual degree in agricultural education and another degree in the College. Agricultural education students may elect to follow the teaching option or the agricultural leadership option.

Students desiring to be admitted to the Teacher Education program in the Department of Agricultural Leadership, Education and Communication should apply as early as possible after the completion of at least 42 credit hours (at least one year before they plan to student teach). Student teaching is conducted off campus through university-approved agreements with cooperating secondary schools. Plans for student teaching must be made early.

To be admitted in full standing for student teaching, the student must have passed the Pre-Professional Skills Test, and have a minimum scholastic grade point average of 2.50. Students with less than a 2.50 GPA may be given provisional admission.

**Teaching Certificate.** Successful completion of the teaching endorsement requirements, along with a recommendation by the Department of Agricultural Leadership, Education and Communication, warrants recommendation for a Nebraska Secondary Teaching Certificate by the Nebraska Department of Education, with an endorsement to teach secondary agricultural education (7-12). The choice is available to students to complete course work qualifying for subject endorsement in biology. See "Teaching Certification" on page 45 for the teaching certificate requirements.

Students in other agricultural degree programs may qualify based upon meeting the teaching certificate requirements.

## Criminal History/Background Check

All students completing student teaching in Agricultural Education during the fall, 2007 semester or after will be required to have a criminal history/background check completed prior to their student teaching experience. The background check must be completed as a part of the application for admission to student teaching.

## Nebraska State Department of Education Policy Pertaining to Students with Felony or Misdemeanor Convictions

The Nebraska Department of Education policy requires that a person with felony convictions or misdemeanor convictions involving abuse, neglect, or sexual misconduct shall not be allowed to participate in pre-student teaching laboratory and classroom experiences or student teach without approval by the Board of Education. To comply with this policy, the Department of Agricultural Education will require each student to affirm under oath that he/she does not have any convictions in the above-named areas prior to each field placement. If a student does have any felony or misdemeanor convictions, he/she is required to meet with Dr. Tom Wandzilak, Certification Officer, Student Services Center, 104 Henzlik Hall, 472-8626, as soon as possible. Students with questions pertaining to convictions should contact Dr. Wandzilak.

## Requirements

### Teaching Option

	Hours
<b>College Integrative Courses.....</b>	<b>15</b>
AGRI/NRES 103 Intro to Agricultural & Natural Resource Systems .....	3
Capstone Course: ALEC 431 <sup>1</sup> .....	12
<b>Mathematics and Statistics (beyond college algebra).....</b>	<b>5</b>
MATH 102 Trigonometry .....	2
EDPS 459 Statistical Methods or STAT 218 Intro to Statistics (ACE 3) .....	3
<b>Communications.....</b>	<b>9</b>
Written: Select from ENGL 150 151, 254; or JGEN 200, 300 (ACE 1).....	3
Oral: Select from COMM 209 or 286 .....	3
Communication/Interpersonal Skills: ALEC 102 (ACE 2).....	3
<b>Natural Sciences (ACE 4).....</b>	<b>12-13</b>
CASNR Approved Life Sciences .....	4
CHEM 105* Chemistry in Context I.....	4
PHYS 141, 151, 211, or MSYM 109.....	4-5
<i>*Students pursuing combined agriculture-biology endorsement must complete CHEM 109.</i>	
<b>Economics .....</b>	<b>3</b>
AECN 141 Intro to the Economics of Agriculture (ACE 6) .....	3
<b>Humanities and Social Sciences.....</b>	<b>18</b>
EDPS 457 Learning & Motivation Principles for Secondary Teaching.....	3
SOCI 217 Nationality & Race Relations or TEAC 330 Multicultural Education .....	3
Humanities and Social Sciences elective .....	12
<i>Select one course each from ACE outcomes 5, 7, 8, and 9.</i>	
<b>Agricultural and Natural Resource Sciences .....</b>	<b>36</b>
<i>A minimum of 15 hours completed at the 200 level or above, and a minimum of 9 hours completed at the 300 level or above. Students must have a course in four CASNR departments or program areas. A course may be used to fulfill more than one category; however, the hours will only count once toward the 36-hour agricultural science requirement.</i>	

Research & Applied Technology .....	3
Select from: AGRI 115; AGRO 315, 431; FDST 131	
Policy .....	3
Select from: AEVN 265, 276, 346, 376; NRES 323; POŁS 235, 236	
Management .....	9
Select from: AECN 201, 325; ASCI 250, 320, 330, 450, 451, 452, 453, 454, 455, 457; AGRO 204, 240, 405; HORT 325	
Production .....	6
Select from: AGRO 131 & 132; ASCI 100 or 150 or HORT 130, 221, 260, 325, 327, 350	
Natural Resources .....	6
Select from: AECN 265; AGRO 153, 366; BIOS 232; ENTO 109; NRES 211, 220, 311	
Mechanized Systems .....	6
Select from: MSYM 232, 245, 312; TEAC/ALEC 104, 203, 205, 242	
Food System .....	3
Select from: AECN 225; ASCI 210; or FDST 101, 131	
<b>Leadership and Education .....</b>	<b>26</b>
ALEC 134 Agricultural Education, Journalism, & Leadership Careers .....	2
ALEC 135 Early Field Experience in Agricultural Education, Leadership & Communication .....	1
ALEC 202 Leadership Development in Small Groups & Teams .....	3
ALEC 234 Planning Leadership & Experience Programs .....	3
ALEC 305 Presentation Skills for Agricultural Audiences .....	3
ALEC 308 Lab Instruction & Management .....	3
ALEC 405 Teaching Methods .....	3
ALEC 405L Methods Lab .....	1
ALEC 413 Program Development .....	3
ALEC 494 Seminar in Agricultural Education .....	1
SPED 401B Accommodating Exceptional Learners in the Secondary Classroom .....	3
Free Electives .....	4
<b>Minimum Credit Hours Required for Graduation .....</b>	<b>128</b>

## Biology Endorsement Requirements

If the student desires to qualify for both an endorsement in agricultural education and a subject endorsement in biology, the following course work should be integrated into the teaching option.

### Supporting Laboratory Based Courses (12 hours)

Chemistry: CHEM 109 .....	4
Physics: PHYS 141, 151, or MSYM 109 .....	4
Earth Science: AGRO 153, Soil Science .....	4

### Biology Courses (24 hours)

Select at least one of the suggested courses from each of the following categories. A course may be used more than once toward fulfilling the content requirement, however a minimum of 24 different hours is required. At least 12 hours must be taken at the 200 level or higher. Other course work may be negotiated with your academic adviser.

<b>Hours</b>	
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Botany	
BIOS 109 General Botany .....	4
AGRO 131 & 132 Plant Science & Lab .....	4
AGRO 204 Field Crop Plants .....	3
AGRO 240 Forage Crop & Range Management .....	4
HORT 130 Intro to Horticulture Science .....	4
Cell Biology/Biochemistry	
BIOS 102 Cell Structure & Function .....	4
Ecology	
AGRI/NRES 103 Intro to Agricultural & Natural Resources Systems .....	3
NRES 211 Wildlife Biology & Conversation .....	3
NRES 311 Wildlife Ecology & Management .....	3
Evolution	
BIOS 101/101L General Biology and Lab .....	4
Genetics	
AGRO 315 Genetics .....	4

Human Biology	
BIOS 101/101L General Biology and Lab .....	4
BIOS 213/213L Human Physiology and Lab .....	4
Microbiology	
FDST 372 Food Safety & Sanitation .....	3
Zoology	
ASCI 240 Anatomy & Physiology of Domestic Animals .....	4
*To be eligible for the biology endorsement, a student must maintain a minimum grade point average of 2.5 in the above course work or its equivalency.	
Integrated Laboratory Management	
ALEC 308 Laboratory Instruction & Management .....	3
Science Methods Instruction	
TEAC 451V Secondary Science Methods I .....	3
TEAC 397 Professional Practicum parallel with TEAC 451V .....	1
Student Teaching	
Students seeking a dual endorsement will be required to complete their student teaching experience in a school where they will spend teaching time in both biology and agriculture.	

## Agricultural Leadership Option

	<b>Hours</b>
<b>College Integrative Courses .....</b>	<b>8</b>
AGRI/NRES 103 Intro to Agricultural & Natural Resource Systems .....	3
Capstone Course: ALEC 495A .....	5
<b>Mathematics and Statistics (beyond college algebra) .....</b>	<b>5</b>
MATH 102 Trigonometry .....	2
EDPS 459 Statistical Methods or STAT 218 Intro to Statistics .....	3
<b>Communication .....</b>	<b>9</b>
Written: Select from ENGL 150, 151, 254; JGEN 200, 300 ..	3
Oral: Select from COMM 209, or 286 .....	3
Communication/Interpersonal Skills: ALEC 102 .....	3
<b>Natural Sciences .....</b>	<b>8-9</b>
Select 2 of 3 natural sciences courses	
CASNR approved life sciences .....	4
CHEM 105 Chemistry in Context I (ACE 4) .....	4
PHYS 141 or 151 or MSYM 109 .....	4-5
<b>Economics, Humanities and Social Sciences .....</b>	<b>18</b>
ECON 211 or ECON 212 or AECN 141 .....	3
ACE Courses .....	12
Select one course each from ACE outcomes 5, 7, 8, and 9 .....	
Select one elective in this area .....	3
<b>Minor .....</b>	<b>18</b>

**NOTE:** An 18-credit minor in an approved minor in the College of Agricultural Sciences and Natural Resources other than leadership and communication is required.

<b>Major Requirements .....</b>	<b>33</b>
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ALEC 134 Agricultural Education, Journalism, & Leadership Careers .....	2
ALEC 202 Leadership Development in Small Groups & Teams .....	3
ALEC 302 Dynamics of Effective Leadership in Organizations .....	3
ALEC 305 Presentation Strategies for Agricultural Audiences .....	3
ALEC 388 Ethics in Agriculture & Natural Resources .....	3
ALEC 407 Supervisory Leadership .....	3
ALEC 410 Environmental Leadership .....	3
ALEC 414 Classic Figures in Leadership .....	3
ALEC 466 Leadership & Diversity .....	3
ALEC 477 Leadership & Motivation .....	3
ALEC 488 Leadership, Power & Influence .....	3
ALEC 494 Undergraduate Seminar .....	1
<b>Free Electives .....</b>	<b>28-29</b>

Must include one 3 credit 200-level or higher course from a department other than ALEC or the minor department.

Recommended: ACCT 201, 202; ALEC 337, 412; AGEC 388; AGRO 315; AECN 316; MRKT 347

<b>Minimum Credit Hours Required for Graduation .....</b>	<b>128</b>
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## Industrial Technology Options

These options are designed to prepare students for careers in Industrial Technology Education (Option One) or Industrial Technology Leadership (Option Two). They provide students with a broad field education in industrial technology. Graduates are qualified to pursue careers in education or industry that deal with construction/woodworking, manufacturing, computer-aided drafting/design and energy, power and transportation.

An endorsement in industrial technology will prepare students with the necessary communication, interpersonal skills, leadership or professional education, knowledge and competence of technical subjects to be a teacher or leader in industry. For the teaching option, students complete a series of professional education courses that concludes with student teaching. For the leadership option, students complete a series of leadership courses that concludes with an internship in industry.

Students desiring to be admitted to the Teacher Education program in the Department of Agricultural Leadership, Education and Communication should apply as early as possible after completion of at least 42 credit hours (at least one year before they plan to student teach). Student teaching is conducted off campus through university-approved agreements with cooperating secondary schools. To be admitted in full standing for student teaching, the student must have passed the Pre-Professional Skills Test (PPST), and have a minimum scholastic grade point average of 2.50. Students with less than a 2.50 GPA may be given provisional admission.

**Teaching Certificate.** Successful completion of the teaching endorsement requirements, along with a recommendation by the Department of Agricultural Leadership, Education and Communication, warrants recommendation for a Nebraska Secondary Teaching Certificate by the Department of Education, with an endorsement to teach secondary industrial technology education (7-12).

## Teaching Option

The minimum requirements of CASNR reflect the common core of courses that apply to students pursuing degrees in the college. Students should work with an adviser to satisfy ACE outcomes 1, 2, 3, 4, 6, and 10 with college requirements.

**Hours**

<b>College Integrative Course .....</b>	<b>15</b>
AGRI/NRES 103 Intro to Agricultural & Natural Resource Systems .....	3
Capstone Course: ALEC 431 Student Teaching .....	12
<b>Mathematics and Statistics (beyond college algebra) .....</b>	<b>5</b>
MATH 102 Trigonometry .....	2
EDPS 459 Statistical Methods or STAT 218 Intro to Statistics .....	3
<b>Communications .....</b>	<b>9</b>
Written: Select from ENGL 150, 151, 254, 255; JGEN 200, 300 .....	3
Oral: Select from COMM 209, or 286 .....	3
Communication/Interpersonal Skills: ALEC 102 .....	3
<b>Natural Sciences .....</b>	<b>8-9</b>
CHEM 105 or CHEM 109 .....	4
PHYS 141 or MSYM 109 .....	4-5
<b>Natural Resources and Environmental Studies or Geosciences .....</b>	<b>3</b>
Select from: NRES 310 or GEOL 115 .....	3

<b>Humanities and Social Sciences.....</b>	<b>21</b>
<i>Students should work with an adviser to select one course each in ACE outcomes 5, 7, and 8 as Humanities and Social Science Electives plus take the following:</i>	
TEAC 330 or SOCI 217.....	3
EDPS 362 or EDPS 457.....	3
DRAW 101.....	3
ECON 211 or 212 or AEVN 141 .....	3
<b>Industrial Technology.....</b>	<b>39</b>
<i>Note: Sequencing of courses should generally follow with student standing, i.e. 100 level for freshmen, 200 level for sophomores, etc. ALEC 323 should be taken last.</i>	
<b>Communication/Design.....</b>	<b>9</b>
ALEC 101 Mechanical Drafting.....	3
ALEC 103 Computer-Aided Drafting.....	3
ALEC 122 Architectural Drafting.....	3
<b>Manufacturing .....</b>	<b>12</b>
<i>Select four from:</i>	
ALEC 109 Industrial Metals & Plastics Materials Processing.....	3
ALEC 204 Machine Tool Technology .....	3
ALEC 205 Welding Technology.....	3
ALEC 346 Advanced Modern Industries .....	3
ALEC 496 Independent Study in Leadership Education: MIG/TIG Welding .....	3
<b>Construction.....</b>	<b>9</b>
<i>Select three from:</i>	
ALEC 104 Wood Technology.....	3
ALEC 242 Construction Technology.....	3
ALEC 243 Production Processes of the Wood Industry.....	3
ALEC 390 Industrial Experience .....	3
<b>Energy, Power and Transportation.....</b>	<b>6</b>
ALEC 201 Electricity/Electronics or MSYM 245 Electrical Service Systems.....	3
ALEC 203 Automotive Technology or MSYM 312 Engine Power Systems.....	3
<b>Synthesis Course .....</b>	<b>3</b>
ALEC 303 Energy, Power & Transportation Technology.....	3
<b>Leadership and Education .....</b>	<b>23</b>
ALEC 134 Agricultural Education, Journalism, & Leadership Careers .....	2
ALEC 135 Early Field Experience in Agricultural Education, Leadership & Communication.....	1
ALEC 305 Presentation Skills for Agricultural Audiences.....	3
ALEC 308 Lab Instruction & Management .....	3
ALEC 405 Teaching Methods .....	3
ALEC 405L Methods Lab.....	1
ALEC 413 Program Development .....	3
ALEC 494 Undergraduate Seminar in Agricultural Education .....	1
SPED 401B Accommodating Exceptional Learners in the Secondary Classroom or SPED 434 Intro to Special Vocational Needs.....	3
TEAC 424 Foundations of Career & Technical Education .....	3
<b>Free Electives .....</b>	<b>4-5</b>
<b>Minimum Credit Hours Required for Graduation .....</b>	<b>128</b>
<b>Hours</b>	
<b>College Integrative Course .....</b>	<b>15</b>
Capstone Course: ALEC 495A Internship .....	12
AGRI/NRES 103 Intro to Agricultural & Natural Resource Systems .....	3
<b>Mathematics and Statistics (beyond college algebra).....</b>	<b>5</b>
MATH 102 Trigonometry .....	2
EDPS 459 Statistical Methods or STAT 218 Intro to Statistics .....	3
<b>Communications .....</b>	<b>9</b>
<i>Written: Select from ENGL 150, 151, 254, 255; JGEN 200,300.....</i>	

## Leadership Option

The minimum requirements of CASNR reflect the common core of courses that apply to students pursuing degrees in the college. Students should work with an adviser to satisfy ACE outcomes 1, 2, 3, 4, 6, and 10 with college requirements. The 12 hour credit integrative course is completed last in one semester at an arranged field (industry) location.

<b>Hours</b>
<b>College Integrative Course .....</b>
Capstone Course: ALEC 495A Internship .....
AGRI/NRES 103 Intro to Agricultural & Natural Resource Systems .....
<b>Mathematics and Statistics (beyond college algebra).....</b>
MATH 102 Trigonometry .....
EDPS 459 Statistical Methods or STAT 218 Intro to Statistics .....
<b>Communications .....</b>
Written: Select from ENGL 150, 151, 254, 255; JGEN 200,300.....

Oral: Select from COMM 209, or 286 .....	3
<i>Communication/Interpersonal Skills: ALEC 102.....</i>	
<b>Natural Sciences .....</b>	<b>8-9</b>
CHEM 105 or CHEM 109 .....	4
PHYS 141 or MSYM 109.....	4-5
<b>Natural Resources and Environmental Studies or Geosciences .....</b>	
Select from: NRES 310 or GEOL 115.....	3
<b>Economics, Humanities and Social Sciences .....</b>	<b>18</b>
ECON 211 or 212 or AEVN 141 .....	3
ACE Courses.....	12
<i>Select one course each from ACE outcomes 5, 7, 8, and 9:</i>	
DRAW 101 .....	3
<b>Industrial Technology.....</b>	<b>39</b>
<i>Note: Sequencing of courses should generally follow with student standing, i.e. 100 level for freshmen, 200 level for sophomores, etc. ALEC 323 should be taken last.</i>	
<b>Communication/Design.....</b>	<b>9</b>
ALEC 101 Mechanical Drafting.....	3
ALEC 103 Computer-Aided Drafting.....	3
ALEC 122 Architectural Drafting.....	3
<b>Manufacturing .....</b>	<b>12</b>
<i>Select four from:</i>	
ALEC 109 Industrial Metals & Plastics Materials Processing.....	3
ALEC 204 Machine Tool Technology .....	3
ALEC 205 Welding Technology.....	3
ALEC 346 Advanced Modern Industries .....	3
ALEC 496 Independent Study in Leadership Education: MIG/TIG Welding .....	3
<b>Construction.....</b>	<b>9</b>
<i>Select three from:</i>	
ALEC 104 Wood Technology.....	3
ALEC 242 Construction Technology.....	3
ALEC 243 Production Processes of the Wood Industry.....	3
ALEC 390 Industrial Experience .....	3
<b>Energy, Power and Transportation.....</b>	<b>6</b>
ALEC 201 Electricity/Electronics or MSYM 245 Electrical Service Systems.....	3
ALEC 203 Automotive Technology or MSYM 312 Engine Power Systems.....	3
<b>Synthesis Course .....</b>	<b>3</b>
ALEC 303 Energy, Power & Transportation Technology.....	3
<b>Leadership Requirements .....</b>	<b>25</b>
<b>Core Requirements.....</b>	<b>13</b>
ALEC 202 Leadership Development in Small Groups & Teams.....	3
ALEC 302 Dynamics of Effective Leadership in Organizations .....	3
ALEC 305 Presentation Strategies for Agricultural Audiences .....	3
ALEC 407 Supervisor Leadership.....	3
ALEC 494 Undergraduate Seminar in Agricultural Education .....	1
Advanced Course work .....	3
<i>Select four from:</i>	
ALEC 410 Environmental Leadership .....	3
ALEC 414 Classic Figures in Leadership.....	3
ALEC 466 Leadership & Diversity in Organizations & Community .....	3
ALEC 477 Leadership & Motivation .....	3
ALEC 488 Leadership, Power & Influence .....	3
<b>Free Electives .....</b>	<b>5-6</b>
<b>Minimum Credit Hours Required for Graduation .....</b>	<b>128</b>

## Cooperative Extension Minor

A minor program in cooperative extension is available through the Department of Agricultural Leadership, Education and Communication. In addition to enhancing and developing leadership and educational presentation skills, the minor is designed to gain a working knowledge of the interactions that can and do exist by using the resources, structure and services available through the land grant institution and extension. It will provide expertise that can be used in a variety of career paths and settings for students with interests in extension, environment and natural resources, community resource development and a variety of education and agricultural related environments.

The 12-hour minor is comprised of the following:

### Required:

ALEC 302 Dynamics of Effective Leadership in Organizations (3 cr)
ALEC 305 Presentation Strategies for Agricultural Audiences (3 cr)
ALEC 330 Foundations of Cooperative Extension (3 cr)
ALEC 412 Multimedia Applications for Education & Training (3 cr)

In addition, students must complete a minimum of 200 hrs practical experience in Extension with ALEC approval.

## Environmental Communications Minor

A minor program in environmental communications is available through the Department of Agricultural Leadership, Education and Communication in cooperation with the School of Natural Resources. The minor is designed to provide students with interests in environmental studies and natural resources, additional expertise that can be used in a variety of career paths and settings. It is also designed to provide the student with a general understanding and working knowledge of the interactions that do—and can—exist between the agricultural sciences, natural resources, and the environment. The ability to communicate effectively with the public about these relevant issues, in articulate, analytical and substantive ways, is becoming an increasingly valued and necessary skill, self-evident to many groups including policy makers, legislators, regulators, advocates, business and the general public. The 12-hour minor is comprised of the following courses:

	Hours
ALEC 305 Presentation Strategies for Agricultural Audiences .....	3
ALEC 388 Ethics in Agriculture & Natural Resources ..	3
or AECN 357 Natural Resources & Environmental Law (3 cr)	
or NRES 323 Natural Resource Policy (3 cr)	
ALEC 410/810 (NRES 413/813) Environmental Leadership.....	3
NRES 423/823 Integrated Resource Management .....	3

Students who wish to minor in environmental communications must first be assigned an adviser with copies of the approved program sent to the Director of Registration and Records and the Dean of the student's college.

## Environmental Education Minor

A minor in environmental education is designed to provide additional qualifications for students interested in pursuing a career in the field of environmental and natural resources education. Career options for students pursuing an environmental education minor include working in formal and nonformal educational settings; employment in the public or private sector; and serving as educational specialists, extension educators, and program leaders. Courses selected for the minor's curriculum were chosen for their holistic perspective and interdisciplinary approach to environmental and natural resources studies. A number of the courses focus regionally on the environment of the Great Plains.

The 18 hour minor includes lower and upper division courses:

<b>Required Professional Education .....</b>	<b>6</b>
ALEC 305 Presentation Strategies for Agricultural Audiences.....	3
ALEC 400 Overview to Program Planning.....	3
<b>Technical Preparation.....</b>	<b>9</b>
<i>Must complete at least three courses from three of the four groups listed below.</i>	
<b>Group 1</b>	
BIOS 207 Ecology & Evolution .....	4
BIOS 220 Principles of Ecology .....	3
BIOS 232 Ecological Issues in the Great Plains .....	3
<b>Group 2</b>	
NRES 211 Intro to Conservation Biology.....	3
NRES 311 Wildlife Ecology & Management.....	3
<b>Group 3</b>	
ANTH 212 Intro to Cultural Anthropology .....	3
NRES 323 Natural Resources Policy.....	3
<b>Group 4</b>	
AECN 388 Ethics in Agriculture & Natural Resources ..	3
ALEC 302 Dynamics of Effective Leadership in Organizations .....	3
ALEC 410 Environmental Leadership .....	3
COMM 371 Communication in Negotiation & Conflict Resolution.....	3
<b>Integrative Activity .....</b>	<b>3</b>
<i>Select from:</i>	
ALEC 495A Internship in Leadership Development... ..	3
ENVR 497 Internship in Environmental Studies.....	3
NRES 497 Career Experiences in Natural Resource Sciences .....	3

## Leadership and Communication Minor

An 18-hour minor in leadership and communication is available through the Department of Agricultural Leadership, Education and Communication. Combining a leadership and communication minor with any CASNR degree strengthens students' "employability" base by making them competent technical professionals who are also strong leaders and effective communicators. The 18-hour minor is comprised of upper and lower division courses as follows:

<b>Hours</b>	
<b>Complete at least three courses from the following list...9</b>	
ALEC 102 Interpersonal Skills for Leadership...3	
ALEC 202 Leadership Development in Small Groups & Teams.....	3
ALEC 302 Dynamics of Effective Leadership in Organizations .....	3
ALEC 305 Presentation Strategies for Agricultural Audiences .....	3
<b>The remaining courses are selected from the following list.....9</b>	
ALEC 337* Instructional Internship in Leadership Development .....	3
ALEC 388 Ethics in Agriculture & Natural Resources .....	3
ALEC 407 Supervisory Leadership.....	3
ALEC 410 Environmental Leadership .....	3
ALEC 414 Classical Figures in Leadership .....	3
ALEC 466 Leadership & Diversity in Organizations & Communities.....	3
ALEC 477 Leadership & Motivation .....	3
ALEC 480** Dynamics of Agricultural Environmental Journalism.....	3
ALEC 488 Leadership, Power & Influence .....	3
AERO 331*** Air Force Leadership Studies I.....	3
AERO 332*** Air Force Leadership Studies II .....	3

**NOTE:** Animal Science Leadership Academy students see Dr. Linda Moody for course requirements.

\* For students having completed ALEC 102 and who have been selected as Teaching Assistants.

\*\* Open only to students enrolled in the Agricultural Journalism major.

\*\*\* May be substituted for Air Force ROTC students only.

Students who wish to minor in leadership and communication must first meet with a Department of Agricultural Leadership, Education and Communication faculty member from the leadership program. A completed "Declaration of Minor" form, filled out with the assistance of the ALEC faculty, should be signed by the student's academic adviser and turned into the College of Agricultural Sciences and Natural Resources Dean's office.

**IS] 207. Communicating to Public Audiences (ADVT 207) (3 cr II) Lec 3.** Prereq: Completion of the College of Agricultural Sciences and Natural Resources (CASNR): completion of all CASNR core communications course requirements. College of Journalism and Mass Communications: 2.75 GPA; JOUR 102. Concepts and techniques of public relations. Skills and theory for relating to government, corporate, and other agricultural public audiences.

**234. Planning Leadership and Experience Programs (3 cr II) Lec 2, lab 3.** Prereq: Sophomore standing and ALEC 134 and/or 135. Theory of experiential education to middle school and secondary agricultural education programs, especially leadership and career education. Development of Supervised Agricultural Experience (SAE), Young Adult/Farmer, FFA, and alumni activities, appropriate to the community, school, and student needs using electronic technology in learning how to teach Nebraska's agricultural education financial management system.

**242. Construction Technology (TEAC 242) (3 cr) Lec, lab.** Prereq: TEAC/ALEC 104. For course description, see TEAC 242.

**243. Production Processes of the Wood Industry (TEAC 243) (3 cr) Lec, lab.** Prereq: TEAC/ALEC 104. For course description, see TEAC 243.

**[ES][IS] 246. Modern Industries (TEAC 246) (3 cr) Lec 3.** For course description, see TEAC 246.

**301. Industrial Graphics (TEAC 301) (3 cr) Lec, lab.** For course description, see TEAC 301.

**[ES][IS] 302. Dynamics of Effective Leadership in Organizations (3 cr I, II) Prereq: ALEC 202.**

Principle and process of effective leadership in complex organizations of society and commerce. Dynamic interactions of personal characteristics, technical skills, interpersonal influence, commitment, goals and power.

**303. Energy, Power and Transportation Technology (TEAC 303) (3 cr II) Lec, lab.** Prereq: TEAC/ALEC 101, 109, 203, 204, and 205. *TEAC/ALEC 303 is a synthesis of skill-based courses for Industrial Technology Education (ITE) majors.* For course description, see TEAC 303.

**305. Presentation Strategies for Agricultural Audiences (3 cr I, II) Lec, act.** Prereq: JGEN 200 or 300. *Student presentations integral to the course.*

Presentation strategies used in agribusiness, education, government and public service. Attention to audience need, organization, methodology and management of presentation resource, especially electronic technology.

**308. Laboratory Instruction and Management (3 cr II) Lec, act.** Prereq: 6 hrs mechanized systems management; advanced standing. *Student demonstrations and presentations required.* Planning, conducting, and administering the instructional programs related to experientially based education in school laboratory settings. Variety of laboratory settings, including agricultural mechanics, greenhouse, soils, etc.

**327. Introduction to Human Relations in Education (EDPS 327) (3 cr) Lec.** For course description, see EDPS 327.

**330. Foundations of Cooperative Extension (3 cr I) Lec.** Prereq: Junior standing. *Credit toward the degree may be earned in only one of: ALEC 233 or ALEC 330.*

Cooperative Extension in a variety of settings and its role in the land-grant mission. Processes for developing and conducting need-driven, research-based, extension programs. Relationships with public and private agencies. Strategies for volunteerism.

**331. Supervised Field Experiences (2-5 cr, max 10 I, II, III) Lab.** Prereq: Junior or senior by application. Field course of supervised observation and participation with various phases of agricultural education and/or agribusiness.

**337. Instructional Internship in Leadership Development (1-3 cr, max 3 I, II, III) Act 3.** Prereq: Permission. A structured professional and personal development experience. Small group facilitation and instructional assistance in leadership development courses.

**340. Advanced Machine Woodworking** (TEAC 340) (3 cr) Lec, lab. Prereq: TEAC/ALEC 243. *TEAC/ALEC 340 is a continuation of TEAC/ALEC 243.*  
For course description, see TEAC 340.

**346. Advanced Modern Industries** (TEAC 346) (3 cr) Lec, lab. Prereq: TEAC/ALEC 101, 204, 210, and 246.  
For course description, see TEAC 346.

**[ES][IS] 388. Ethics in Agriculture and Natural Resources** (AECN 388) (3 cr II)  
Ethics focusing on agricultural and natural resource issues. Using case studies from the professional workplace and contemporary society, develops intellectual skills necessary to reflect critically on ethical issues and apply appropriate conceptual tools for resolution of issues arising from conflicting ethical and value systems.

**390. Industrial Experience** (TEAC 390) (1-6 cr, max 6) Fld. Prereq: Permission.  
For course description, see TEAC 390.

**397. Special Topics** (1-3 cr, max 3 I, II) Lec. Prereq: Permission. Readings; in depth discussions; analysis of current theory, issues, problems, research and practice in leadership, education and/or communication. Topics vary.

**399. Independent Study in Communications** (1-3 cr, max 12) Prereq: Permission and advance approval of plan of work. Individual or group projects in research, literature review, or extension of course work under supervision and evaluation of a departmental faculty member.

**400/800. Overview to Program Planning** (3 cr II) Lec 3. Prereq: ALEC 305 or ALEC/TEAC 805/NUTR 806. ALEC 400/800 is designed for individuals interested in developing and/or improving program planning skills. Theoretical and applied considerations for identifying content, design, implementation, and evaluation of educational programs that vary in length from several hours to several months.

**[IS] 405. Methods of Instruction for Secondary Agriscience Education** (3 cr I) Prereq: Senior standing and 3 hrs educational psychology, or permission. Instructional delivery of a secondary agricultural education program in the public school system. Organizing instructional content, individual lesson planning, methods of formal instructional delivery, student behavior management, instructing the handicapped and disadvantaged, and student testing. Considerable time is spent on undergraduates demonstrating instructional delivery.

**405L. Methods of Instruction Laboratory Education** (1 cr) Prereq: Admission to the teaching program in agricultural education and parallel registration in ALEC 405. Laboratory exercises that complement material covered in ALEC 405. Involve practice teaching at either the middle or secondary school level.

**407/807. Supervisory Leadership** (CYAF \*807) (3 cr) Lec 3. Prereq: ALEC 302. Knowledge and theoretical basis for practicing supervisors in a changing workplace where supervisors have increasing responsibilities due to the flattening of organizational structures, solving supervisory challenges in organizing and planning, problem solving and decision making, performance appraisal and leading a diverse workforce.

**[ES][IS] 410/810. Environmental Leadership** (NRES 413/813) (3 cr) Lec 3. Major leaders in conservation and ecology that emphasizes agricultural and cultural issues and relationships with the environment.

**412/812. Multimedia Applications for Education and Training** (NUTR \*812) (3 cr) Lec, lab. Practical applications in developing and evaluating multimedia resources for students. Surveys new applications, creates and develops various instructional materials, and reviews current practice against relevant theory. Use current software packages to develop materials for various audiences.

**413. Program Development** (3 cr) Lec, rct. Prereq: Junior standing and acceptance into the student teaching program in agricultural education. Planning, marketing and managing formal and non-formal educational programs for youth and adults. The learning process applied to learner needs and styles. Building collaborative relationships.

**[ES][IS] 414/814. Classic Figures in Leadership** (3 cr) Lec, rct. Prereq: Junior standing. *Requires extensive writing and oral presentations.* Leadership theory in an applied context. Leadership analyzed through a variety of genres: autobiography, drama, fiction, tracts and treatises, speeches.

**[IS] 417. Issues Management and Crisis Communications in Agriculture** (ADVT 417) (3 cr I) Lec 3. Prereq: College of Agricultural Sciences and Natural Resources: Junior standing. Pre-req: College of Journalism and Mass Communications: Junior standing; 2.75 GPA; ADVT 283; JOUN 102. Fundamental components of issues management and crisis communications. Learning experiences in agriculture and natural resources that provide an understanding of issues facing the respective field of study.

**420/820. Improvement of Instructional Programs for Post-High-School Occupational Education** (1-3 cr, max 3) Designing new instructional programs, expanding the impact of student behavioral objectives, and evaluating the total instructional program.

**[IS] 428. Leadership in Public Organizations** (NRES 428/828) (3 cr II) Lec 3. Prereq: Junior standing.  
For course description, see NRES 428/828.

**\*431. Student Teaching** (1-12 cr, max 12) Fld. Prereq: 3 hrs EDPS; passing score on the Preprofessional Skills Tests (PPST); and permission. *Student teaching placement arranged by the department. Seven to sixteen weeks of off-campus student teaching.* Guided participation in various phases of a public school agricultural education program.

**[IS] 466/866. Leadership and Diversity in Organizations and Communities** (3 cr) Lec 3. Leadership theories and their applications to human diversity in organizations and communities, with special emphasis on rural environments.

**[IS] 477/877. Leadership and Motivation** (3 cr) Lec 3. Classic and contemporary motivation theories applied to leadership in organizations and communities.

**[IS] 480. Dynamics of Agricultural Environmental Journalism** (3 cr II) Prereq: Junior standing. Roles of the professional agricultural journalist and/or communicator in today's society. Synthesis of agricultural and natural resources sciences and journalism.

**[IS] 488/888. Leadership, Power and Influence** (3 cr) Lec 3. Organizational influence processes, power, and politics in organizations and communities.

**494. Undergraduate Seminar in Agricultural Education** (1-3 cr, max 3) Philosophy and relationship of agricultural education in the public schools. Development and coordination of adult and continuing agricultural education programs.

**495A. Internship in Leadership Development** (1 (2-5 cr, max 5 I, II, III) Fld. Prereq: Junior standing; ALEC 302; agricultural education major; and permission. *Agricultural education majors must take ALEC 495A for Pass/No Pass.* Internship in a selected agribusiness, industry, or agency. Collaborative development of a training program and leadership activities.

**495B. Internship in Agricultural Journalism** (3 cr) Fld. Prereq: Junior standing; agricultural journalism major; and permission. *ALEC 495B is taken the second semester of the junior year or in the summer following the junior year. Department approval is required. ALEC 495B cannot be taken Pass/No Pass.* Internship in a selected entity relating to advertising, broadcasting, or news-editorial.

**496/896. Independent Study in Leadership Education** (1-9 cr, max 9) Prereq: Permission.  
Projects in research, literature review, or extension of course work.

**499H. Honors Thesis** (3-6 cr, max 6 I, II, III) Prereq: Admission to the University Honors Program and permission, AGRI 299H recommended. Conduct a scholarly research project and write a University Honors Program or undergraduate thesis.

**801. Theoretical Foundations of Leadership** (3 cr) Lec.

**802. Developing Leadership Capacity in Organizations and Communities** (3 cr) Prereq: ALEC 801 or equivalent.

**804. Problems of Beginning Agriscience Teachers** (2-5 cr I, II, III) Lec/act.

**805. Advanced Teaching Strategies** (TEAC 805/NUTR 806) (3 cr) Lec.

**806. Introduction to Distance Education** (3 cr, I) Lec.

**815. Development and Organization of Vocational Education** (TEAC 815) (1-3 cr) Lec.

**816. Management Strategies in Distance Education Environments** (3 cr II, III) Lec.

**826. Program Evaluation** (3 cr)

**845. Research in Leadership Education** (CYAF 845) (3 cr) Lec.

**890. Workshop Seminars** (1-12 cr I, II, III)

**893. Technical Agricultural Workshops** (1-12 cr I, II, III) Prereq: Permission.

**897. Special Topics** (1-3 cr I, II) Lec. Fld.

**899. Masters Thesis** (6-10 cr)

*Refer to the Graduate Bulletin for 900-level courses.*

## Agricultural Journalism

**Coordinator: Assistant Professor Jason D. Ellis,**  
Department of Agricultural Leadership, Education and Communication; 300 Agricultural Hall

This degree program is designed to prepare students for careers in journalism and public relations. The degree gives the student a broad education. Graduates are also qualified to pursue careers in journalism and public relations that do not deal with agriculture or natural resources.

Students will complete the Advertising, Broadcasting, or News-Editorial sequence in Journalism and the Agricultural Journalism core. Students may select one of three areas of emphasis within the agricultural journalism degree program: 1) Agricultural and Natural Resources Policy, 2) Production Agriculture, or 3) Agricultural and Natural Resources Public Relations.

The general education requirements give the student a well-rounded introduction to science, communications, humanities and social sciences. The Agricultural Journalism core provides an introduction to the degree content areas a journalist/public relations professional should know including leadership development. The journalism core is offered through the College of Journalism and Mass Communications, which is an accredited program.

Individuals in this degree program must maintain an overall grade point average (GPA) of 2.75 or above. All courses are to be taken for a grade rather than Pass/No Pass.

<b>College Core Requirements</b> .....	43
College Integrative Courses .....	6
AGRI/NRES 103 Intro to Agricultural & Natural Resource Systems .....	3
ALEC 480 Dynamics of Agricultural Journalism (Capstone) .....	3
Mathematics and Statistics (beyond college algebra) (ACE 3) .....	5
Select from MATH 102, 104, 106, and STAT 218.	

**NOTE:** Proficiency at the college algebra level must be demonstrated either by a placement exam or through course work. If MATH 103 is taken, only 2 credit hours can be counted toward this requirement.

Communications.....	6
Written communications.....	3
Select from ENGL 150, 151, 252; JGEN 120, 200, 220, 300	
Communications & Interpersonal Skills electives .....	3
Select from: ALEC 102; ENGL 101, 150, 151, 252, 253, 254; JGEN 120; COMM 109, 209, 212, 286	
Natural Sciences (ACE 4).....	8-9
Select two from:	
BIOS 101 & 101L General Biology & Lab .....	4
CHEM 109 General Chemistry I.....	4
PHYS 141 Elementary General Physics (5 cr) or PHYS 151 Elements of Physics (4 cr) or PHYS 211 General Physics (4 cr) or MSYM 109 Physical Principles in Agriculture (4 cr). 4-5	
Economics, Humanities and Social Sciences .....	18
ECON 211 or 212 or AECN 141 .....	3
ACE Courses.....	12
Select one course each from ACE outcomes 5, 7, 8, and 9.	
Elective in this area.....	3
<b>Major Requirements and Electives.....</b>	88
<b>Minimum Requirements for Graduation.....</b>	128

## Journalism Courses

See the College of Journalism and Mass Communications Sequences listed below for specific courses of study for advertising, broadcasting, or news-editorial.

**NOTE:** Journalism students take JOUR 487 (3 hrs) as part of the CASNR core courses.

### Requirements for Advertising

The additional courses required for a 35-hour degree in the advertising sequence are as follows:

JOUR 101, 142, 486
ADVT 251, 283, 333, 357, 460, 489; and 6 hrs of journalism electives

### Requirements for Broadcast News

The additional courses required for a 35-hour degree in the broadcasting sequence are as follows:

JOUR 101, 142, 162, 350, 486
NEWS 202
BRDC 369, 370, 372; and 6 hrs of journalism electives

### Requirements for Broadcast Production

The additional courses required for a 35-hour degree in the broadcasting sequence are as follows:

JOUR 101, 142, 162, 350, 486
BRDC 227, 228, 359, 360, 362; and 6 hrs of journalism electives

### Requirements for News Editorial

The additional courses required for a 35-hour degree in the news-editorial sequence are as follows:

JOUR 101, 142, 162, 350, 486
NEWS 201, 202, 302; 3 hrs from 303, 404 or 400-level reporting course; and 6 hrs of journalism electives

<b>Agricultural Leadership Courses .....</b>	12
<i>Required Core Courses</i>	
ALEC 202 Leadership Development in Small Groups or ALEC 302 Dynamics of Effective Leadership in Organizations or ALEC 305 Presentation Strategies for Agricultural Audiences .....	3
ALEC 134 Intro to Agricultural Education.....	2

ALEC 135 Early Field Experience .....	1
ALEC 207 Communicating to Public Audiences .....	3
ALEC 495B Internship in Agricultural Journalism .....	3
<b>Agricultural Science Courses.....</b>	18

*Can have only 9 hrs at the 100 level.*

Animal Science .....	5
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*Select from:*

ASCI 100 Fundamentals of Animal Biology & Industry (4 cr)	
ASCI 150 Animal Production Skills (2 cr)	
ASCI 171 Human-Companion Animal Interaction (2 cr)	
ASCI 210 Animal Products (3 cr)	
ASCI 240 Anatomy and Physiology of Domestic Animals (4 cr)	
ASCI 250 Animal Management (3 cr)	
ASCI 251 Intro to Companion Animals (3 cr)	
ASCI 252 Fundamentals of the Horse Industry (2 cr)	
ASCI 320 Animal Nutrition and Feeding (3 cr)	
ASCI 330 Animal Breeding (4 cr)	
ASCI 370 Animal Welfare (3 cr)	
BIOS 112 & 112L Introduction to Zoology (4 cr)	

Plant Science .....	7
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*Select from:*

AGRO 131 Plant Science & 132 Plant Science Lab (4 cr)	
AGRO 153 (HORT/SOIL 153) Soil Resources (4 cr)	
AGRO 204 Resource-Efficient Crop Management (3 cr)	
AGRO 240 Forage Crop & Range Management (4 cr)	
AGRO 269 Principles of Soil Management (3 cr)	
AGRO 361 Soils, Environment and Water Quality (3 cr)	
AGRO 405 Crop Management Strategies (3 cr)	
AGRO 445 Livestock Management on Range & Pasture (3 cr)	
BIOS 109 Botany (4 cr)	

Natural Resources .....	6
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*Select from:*

NRES 211 Intro to Conservation Biology (3 cr)	
NRES 311 Wildlife Ecology & Management (3 cr)	
NRES 423 Integrated Resource Management (3 cr)	
NRES 424 Forest Ecology (4 cr)	

*Student must select one of the following options.....15*

## Agricultural and Natural Resources Policy Option

The Agricultural and Natural Resources Option is for students who are interested in the policies and issues surrounding agriculture, natural resources and the environment. These students will find careers in mass media, nonprofit and governmental agencies that focus on policies and issues.

AECN 265 Resource & Environmental Economics ..	3
AECN 357 Natural Resources & Environmental Law ..	3
AECN 457 Water & Natural Resources Law .....	3
NRES 323 Natural Resources Policy .....	3
Free Electives (CASNR) .....	3

## Production Agriculture Option

Students in the Agricultural Production Option will focus on the food system. They will be prepared for careers in mass media, agricultural industry, nonprofit and governmental agencies that deal with the research and production of the food supply.

### Option A

AGRO 315 Genetics .....	4
Select a 300-level or above course from each of the following areas.....	12
Animal Science .....	3
Plant Science .....	3

Agricultural Economics.....	3
Electives from CASNR Courses.....	3

### Option B

Production Minor .....	15
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*Select one of the following CASNR minors:*

Agribusiness	
Agronomy	
Animal Science	
Food Science & Technology	
Grassland Ecology & Management	
Horticulture	
Mechanized Systems Management	

## Agricultural and Natural Resources Public Relations Option

The Agricultural and Natural Resources Public Relations option prepares students to have careers promoting agriculture, agricultural products, natural resources and the environment. Careers can be found in mass media, public relations, advertising firms and corporations handling agricultural, natural resources and environmental accounts. Careers also can be found in nonprofit organizations and governmental agencies.

ADVT 332* Principles of Promotional Writing .....	3
ADVT 357* Strategic Communications Research & Strategy .....	3
ALEC 417 Issues Management & Crisis Communications in Agriculture & Natural Resources .....	3
Select two of the following three courses: .....	6
ADVT 450 Public Relations Theory, Strategy & Management .....	3
ADVT 451 Advertising & Public Relations Techniques .....	3
ADVT 459 Advertising & Public Relations in the Electronic Media .....	3

*\*Since these courses are in the advertising core, students in advertising will take 6 elective hours in broadcasting and news-editorial to complete the agricultural and natural resources public relations option.*

Free Electives .....	7-8
Total Requirements for Graduation .....	128

## Hospitality, Restaurant and Tourism Management

**Program Coordinator:** Assistant Professor Lisa Pennisi, Department of Agricultural Leadership, Education and Communication; 300 Agricultural Hall

**Curriculum Committee Co-chairs:** Fayrene Hamouz, Lisa Pennisi

The bachelor of science in hospitality, restaurant and tourism management is jointly offered by the College of Agricultural Sciences and Natural Resources and the College of Education and Human Sciences.

The program offers eight options, two of which are offered in the Department of Agricultural Leadership, Education and Communication: Nature-based Tourism and Parks and Recreation.

The tourism and parks and recreation options prepare individuals to serve as professionals in the tourism and parks and recreation fields by providing a foundation in leadership, tourism, natural resource recreation and entrepreneurial business operations. The program gives students a broad education enabling graduates to successfully operate tourism businesses, manage parks and outdoor recreation ventures while successfully serving the tourism and recreation needs of the public.

## Nature-based Tourism Option

The nature-based tourism option is for students interested in the tourism business whether as an entrepreneur, small business owner, operator or guide. Students may also work in tourism development and marketing through government or non-profit organizations such as state divisions of travel and tourism or local Convention and Visitor Bureaus.

## Parks and Recreation Option

The parks and recreation option is for students interested in careers that provide people opportunities to experience and enjoy nature while ensuring sensitive resources are protected for future generations. Students will be prepared for careers in management with federal, state and local agencies including positions as park managers, nature center, museum and zoo administration, environmental education, and outdoor recreation.

	Hours
<b>College Integrative Courses</b>	<b>6</b>
AGRI/NRES 103 Intro to Agricultural & Natural Resources Systems	3
Capstone Course: ALEC 495A Internship (need departmental approval)	3
<b>Mathematics and Statistics (beyond college algebra)</b>	<b>5</b>
Select from: MATH 102, 104, 106, 203 and STAT 218 .. 2	
<b>NOTE: Proficiency at the college algebra level must be demonstrated either by a placement exam or through course work. If MATH 103 is taken, only 2 cr hrs can be counted toward this requirement. Students must take MATH 203 prior to STAT 218 to receive UNL credit for both MATH 203 and STAT 218. Students who transfer STAT 218 credit to UNL, will not receive UNL credit for MATH 203.</b>	
<b>Communication</b>	<b>9</b>
Written: Select from ENGL 150, 151, 254;	
JGEN 120, 200 .....	3
Oral: Select from COMM 109, 209, 286; JGEN 300 .....	3
ALEC 102 Interpersonal Skills	3
<b>Natural Sciences</b>	<b>12-13</b>
BIOS 101 & 101L General Bio & Lab	4
NRES 220 & 222 Principles of Ecology & Lab	4
Select one from:	4-5
CHEM 105 Chemistry in Context I (4 cr)	
CHEM 109 General Chemistry I (4 cr)	
PHYS 141 Elementary General Physics I (5 cr)	
PHYS 151 Elements of Physics (4 cr)	
MSYM 109 Physical Principles in Agriculture (4 cr)	
<b>Economics, Humanities and Social Sciences</b>	<b>18</b>
ECON 211 and ECON 212	6
ACE Courses	12
Select one course each from ACE outcomes 5, 7, 8, and 9.	
<b>Hospitality, Restaurant and Tourism Core Requirements*</b>	<b>22</b>
HRTM 171 Intro to Hospitality, Restaurant, & Tourism Management	3
ALEC 202 Leadership Development in Small Groups & Teams	3
ALEC 302 Dynamics of Effective Leadership in Organizations	3
NREE 357 Natural Resources & Environmental Law	3
ACCT 306 Survey of Accounting	4
ALEC 410 Environmental Leadership	3
ALEC 466 Leadership & Diversity	3
<b>Tourism Emphasis</b>	
Tourism Requirements	25
Select from:	
ALEC 135 Early Field Experience in Agricultural Education, Leadership & Communication (1 cr)	
ALEC 207 Communicating to Public Audiences (3 cr)	
ALEC 397 Ecotourism (3 cr)	
CRPL 420 Grant Writing & Fund-raising (3 cr)	

GPSP 170 Intro to Great Plains Studies (3 cr)	
HRTM 271 Outdoor Recreation (3 cr)	
HRTM 280 Intro to Tourism (3 cr)	
HRTM 478 Tourism Resources & Development (3 cr)	
MRKT 341 Marketing (3 cr)	
Business Development .....	6

Select two from:

ENTR 121 Intro to Entrepreneurship Management (3 cr)	
ENTR 421 Entrepreneurship & Venture Management (3 cr)	
ENTR 422 Small Business Management (3 cr)	
MNGT 321 Business Plan Development (3 cr)	

Marketing .....

Select from:	
ADVT 251 Principles of Strategic Communication (3 cr)	
MRKT 347 Marketing Communication strategies (3 cr)	
MRKT 443 Consumer Behavior (3 cr)	

Choose an option:

<b>Public Relations Option</b>	<b>9</b>
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Select one of the following:

HRTM 285 Intro to Lodging (3 cr)	
HRTM 289 Intro to Events (3 cr)	
HRTM 471 Vines, Wine & You (3 cr)	

Select two of the following:

ADVT 333 Communications Graphic (3 cr)	
ALEC 305 Presentation Strategies (3 cr)	
ALEC 417 Issue Management & Crisis Communication (3 cr)	
COMM 375 Theories of Persuasion (3 cr)	
JOUR 101 Principles of Mass Media (3 cr)	
JOUR 102 The Art of Writing (3 cr)	

<b>Natural History Option</b>	<b>9-12</b>
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Select one of the following:

AGRO 131 Plant Science (4 cr)	
ANTH 130 Anthropology of the Great Plains (3 cr)	
BIOS 109 General Botany (BIOS 101 or equiv) (4 cr)	
ETHN 201 Intro to Native American Studies (4 cr)	
HORT 200 Landscape & Environmental Appreciation (3 cr)	
HORT 212 Landscape Plants (3 cr)	
NRES 310 Intro to Forest Management (BIOS 109 or perm)* (4 cr)	
NRES 311 Wildlife Ecology & Management (NRES 220 & 222) (3 cr)	
NRES 386 Vert Zoology (Jr standing) (4 cr)	
NRES 474 Herpetology (4 cr)	
NRES 476 Mammology (4 cr)	
NRES 489 Ichthyology (12 hrs BIOS)* (4 cr)	

<b>Communications</b>	<b>3</b>
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Select one of the following:

ADVT 333 Communications Graphics (3 cr)	
ALEC 397 Conflict Resolution (3 cr)	
ALEC 417 Issue Management & Crisis Communication (3 cr)	
COMM 375 Theories of Persuasion (3 cr)	
JOUR 444 Science Writing (3 cr)	

<b>Regional Studies Courses</b>	<b>3</b>
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Select one of the following:

ANTH 130 Anthropology of the Great Plains (3 cr)	
ANTH 351 Indigenous Peoples of North America (3 cr)	
ETHN 201 Intro to Native American Studies (3 cr)	
GEOG 170 Intro to Great Plains Studies (3 cr)	
HIST 346 North American Environmental History (3 cr)	
HIST 359 The Mythic West (3 cr)	
HIST 360 History of Nebraska & Great Plains (3 cr)	

<b>Natural Science Courses</b>	<b>11-16</b>
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FLORA-Select one of the following: .....

AGRO 131 Plant Science (4 cr)	
AGRO 242 North American Wildland Plants (1 cr)	
AGRO 442 Wildland Plants (3 cr)	
BIOS 109 General Botany (4 cr)	
HORT 200 Landscape & Environmental Appreciation (3 cr)	
HORT 212 Landscape Plants (3 cr)	
NRES 310 Intro to Forest Management (4 cr)	
NRES 424 Forest Ecology (220) (4 cr)	
PLPT 370 Biology of Fungi (8 hrs of Bio)* (3 cr)	

FAUNA-Select two of the following: .....

BIOS 475 Ornithology (12 hrs BIOS)* (3 cr)	
ENTO 115 & 116 Insect Biology & ID Lab (4 cr)	
NRES 386 Vertebrate Zoology (Jr standing) (4 cr)	
NRES 474 Herpetology (4 cr)	
NRES 476 Mammology (4 cr)	
NRES 489 Ichthyology (12 hrs BIOS)* (4 cr)	

\*Plan early to meet course prerequisites

General - Select one of the following: .....

GEOL 100 Intro to Geology (3 cr)	
GEOL 120 Geology of National Parks & Monuments (3 cr)	
GEOL 422 Advanced Techniques in GIS (4 cr)	

Electives .....

TOTAL Credits .....

128

## Parks & Recreation Emphasis

### Parks & Recreation Requirements .....

ALEC 135 Early Field Experiences (1 cr)	
ALEC 207 Communicating to Public Audiences (3 cr)	
CRPL 420 Grant Writing & Fund-raising (3 cr)	
GEOG 412 Intro to GIS (4 cr)	
HRTM 271 Outdoor Recreation in America (3 cr)	
NRES 311 Wildlife Ecology & Management (3 cr)	
NRES 428 Leadership in Public Organizations (3 cr)	

### Business & Policy Courses .....

Select one of the following:	
NUTR 289 Event Planning (3 cr)	
MNGT 320 Principles of Management (3 cr)	
NRES 323 Natural Resources Policy (3 cr)	
NREE 265 Resource & Environmental Economics I (3 cr)	

The field of agronomy encompasses the sciences related to crops and soils. It includes crop production, crop breeding, seed production and certification, weed science, range and pasture management, soil management and irrigation, and soil conservation. Students should choose a specific option as a means of preparing to farm; to work in business related to farming such as seed and grain, agricultural consulting, farm management, fertilizer and agricultural chemicals; or to fill government or foreign assignments. Those interested in a range science or a soil science degree program should see "Grassland Ecology and Management" on page 82 or "Environmental Restoration Science" on page 71.

The agronomy degree program is designed for students who are interested in plants and soils as they relate to economic crop production and environmental protection. More specifically, four career areas are emphasized for students:

- Students who wish to be directly involved in crop production through farm management, crop advising, or merchandising of farm and ranch supplies.
- Students who wish to be involved in an agricultural business dealing with agricultural crops or supplies.
- Students who desire a career in agricultural science and biotechnology, and thus need an undergraduate curriculum that will prepare them for the postgraduate training that is usually required for such careers.
- Students who are interested in environmental quality related to the production of agricultural crops.

## Requirements

The following basic courses are required for a BS degree in agronomy. In addition, students must select and meet the requirements of one of the options, depending upon their particular interests and vocational goals. In some cases, students may choose to meet the requirements of a specialization within an option, but this is not required. Students should work with advisers to assure that the 10 ACE requirements of the University of Nebraska–Lincoln are met.

	Hours
<b>College Integrative Course</b> .....	<b>3</b>
AGRI/NRES 103 Intro to Agricultural & Natural Resource Systems .....	3
<b>Agronomy</b> .....	<b>8-12</b>
AGRO 132 Plant Science Lab.....	1
AGRO/SOIL 153 Soil Resources .....	4
AGRO 201 Career & Internship Preparation .....	1
AGRO 295 Internship in Agronomy .....	1-5
AGRO 401 Professional Development for Agronomists .....	1
<b>Mathematics and Statistics (beyond college algebra)</b> .....	<b>5</b>
Includes: mathematics and statistics	
<b>Communications</b> .....	<b>9</b>
Written Communication.....	3
Select from: ENGL 150, 151, 254; JGEN 120, 200, 300	
Oral Communication .....	3
Select from: COMM 109, 209, 286	
Communication and Interpersonal Skills.....	3
Select from: ALEC 102; ENGL 101, 150, 151, 252, 253, 254; COMM 109, 209, 212, 286 (recommended for Business Option); JGEN 120, 200, 300	
<b>Natural Sciences</b> .....	<b>11-12</b>
AGRO/HORT 131 Plant Science .....	3
MSYM 109 or PHYS 141 or 151 .....	4-5
AGRO 315 Genetics .....	4
<b>Economics, Humanities and Social Sciences</b> .....	<b>15</b>
ECON 211 or 212 or AECN 141 .....	3
ACE Courses.....	12
Select one course each in ACE outcomes 5, 7, 8, and 9.	
<b>Major and Option Requirements and Electives</b> ....	<b>72-77</b>

## Options

### Integrated Crop Management Option

The integrated crop management option is designed for students who plan a career in crop consulting or crop technical services. Employment opportunities exist with crop consulting firms, agro-chemical and seed companies.

	Hours
<b>College Capstone Course</b> .....	<b>3</b>
Select one:	

- AGRO 405 Crop Management Strategies (3 cr)  
AGRO/ASCI/RNGE 445 Livestock Management on Range & Pasture (3 cr)

<b>Plant and Soil Management</b> .....	<b>26</b>
AGRO 204 Resource-Efficient Crop Management.....	3
AGRO 240 Forage, Crop & Range Management .....	4
AGRO 269 Principles of Soil Management .....	3
AGRO 366 Soil Nutrient Relationships.....	4
Select 9 hrs from:	9
AGRO/AGEN/MSYM 431 Site-specific Crop Management (3 cr)	
AGRO 437 Animal, Food & Industrial Uses of Grain (2 cr) and AGRO 438 Producing Grain for Animal, Food & Industrial Uses (1 cr) (3 cr)	
ASCI 250 Animal Management (3 cr)	
HORT 352 Production & Physiology of Horticultural Crops (2 cr)	
HORT 353 Vegetable Crop Production Lab (2 cr)	
<b>Crop Protection</b> .....	<b>3</b>
Select one:	
AGRO 426 Invasive Plants (3 cr)	
ENTO 308 Management of Field Crop Insects (3 cr)	
PLPT 369 Introductory Plant Pathology (3 cr)	
<b>Natural Sciences</b> .....	<b>14-16</b>
CHEM 105 & 106 Chemistry in Context I & II or	
CHEM 109 & 110 General Chemistry I & II.....	8
Select two courses from:	6-8
AGRO/HORT 325 Introductory Plant Physiology (4 cr)	
AGRO/HORT/NRES 435 Agroecology (3 cr)	
AGRO 440 Great Plains Ecosystems (3 cr)	
BIOS 109 General Botany (4 cr)	
NRES 220 Principles of Ecology (3 cr)	
<b>Business and Economics</b> .....	<b>12-13</b>
Select one course from each category:	
Management .....	3-4
AECN 201 Farm & Ranch Management (4 cr)	
AECN 301 Farm Accounting, Analysis & Tax Management (3 cr)	
AECN 316 Agribusiness Management (3 cr)	
Business Law .....	3
AECN 256 Legal Aspects in Agriculture (3 cr)	
AECN 357 Natural Resources & Environmental Law (3 cr)	
AECN 457 Water Law (3 cr)	
Finance .....	3
AECN 452 Agricultural Finance (3 cr)	
FINA 361 Finance (3 cr)	
FINA 365 Financial Institutes & Markets (3 cr)	
Marketing .....	3
AECN 225 Agribusiness & Food Products Marketing (3 cr)	
AECN 325 Marketing of Agricultural Commodities (3 cr)	
AECN 425 Agricultural Marketing in a Multinational Environment (3 cr)	
<b>Business Electives</b> .....	<b>6-7</b>
Courses in ACCT, BSAD, ECON (except ECON 210, 211, 212), FINA, MNGT, or MRKT.	
<b>Agricultural Economics &amp; Leadership Electives</b> .....	<b>6</b>
AECN courses (except AECN 141 and 388) or ALEC 202 or 302.	
<b>Option Total</b> .....	<b>67-71</b>
<b>Free Electives</b> .....	<b>1-10</b>
<b>Grand Total</b> .....	<b>128</b>

### Crop Production Option

The crop production option is designed for students who plan to be directly involved in or manage a farming operation.

	Hours
<b>College Capstone Course</b> .....	<b>3</b>
Select one:	
AGRO 405 Crop Management Strategies (3 cr)	
AGRO/ASCI/RNGE 445 Livestock Management on Range & Pasture (3 cr)	
AECN 416 Advanced Agribusiness Management (3 cr)	
AECN 435 Advanced Agricultural Marketing Management (3 cr)	
HORT 488 Business Management for Horticultural Enterprises (recommended) (3 cr)	
<b>Plant and Soil Management</b> .....	<b>23</b>
AGRO 204 Resource-Efficient Crop Management.....	3
AGRO 240 Forage, Crop & Range Management .....	4
AGRO 269 Principles of Soil Management .....	3
AGRO 366 Soil Nutrient Relationships.....	4
Select 12 hrs from:	12
AGRO/AGEN/MSYM 431 Site-specific Crop Management (3 cr)	
AGRO 437 Animal, Food & Industrial Uses of Grain (2 cr) and AGRO 438 Producing Grain for Animal, Food & Industrial Uses (1 cr) (3 cr)	
ASCI 250 Animal Management (3 cr)	
HORT 352 Production & Physiology of Horticultural Crops (2 cr)	
HORT 353 Vegetable Crop Production Lab (2 cr)	

HORT 353 Vegetable Crop Production Lab (2 cr)	
HORT 354 Fruit Production Lab (2 cr)	
HORT 362 Nursery Crop Production Management (3 cr)	
MSYM 354 Soil Conservation & Watershed Management (3 cr)	
MSYM 452 Irrigation Management (3 cr)	
NRES 208 Applied Climate Science (3 cr)	
NRES 417 Agroforestry Systems in Sustainable Agriculture (3 cr)	
2nd Capstone ( <i>see list above</i> ) (3 cr)	
<b>Crop Protection.....</b>	<b>9</b>
AGRO 426 Invasive Plants.....	3
ENTO 308 Management of Field Crop Insects.....	3
PLPT 369 Introductory Plant Pathology .....	3
<b>Natural Sciences.....</b>	<b>17-19</b>
CHEM 105 & 106 Chemistry in Context I & II or CHEM 109 & 110 General Chemistry I & II .....	8
<i>Select three courses from:</i> .....	9-11
AGRO/HORT 325 Introductory Plant Physiology (4 cr)	
AGRO/HORT/NRES 435 Agroecology (3 cr)	
AGRO 440 Great Plains Ecosystems (3 cr)	
BIOS 109 General Botany (4 cr)	
NRES 220 Principles of Ecology (3 cr)	
<b>Business and Economics.....</b>	<b>10</b>
AECN 201 Farm & Ranch Management .....	4
AECN 301 Farm Accounting, Analysis & Tax Management.....	3
AECN 325 Marketing Agricultural Commodities.....	3
<b>Option Total.....</b>	<b>65-67</b>
<b>Free Electives .....</b>	<b>5-12</b>
<b>Grand Total.....</b>	<b>128</b>

## Research Careers Option

The research careers option emphasizes basic sciences as they relate to agronomy in order to prepare students for graduate studies. This option is the first step in preparing for careers in research, teaching, or extension in academia or the private sector.

Hours

<b>College Capstone Course .....</b>	<b>3</b>
Any AGRO or HORT Capstone Course.....	3
<b>Plant, Soil &amp; Pest Management .....</b>	<b>15-17</b>
<i>Select five courses from:</i>	
AGRO 204 Resource-Efficient Crop Management (3 cr)	
AGRO 240 Forage, Crop & Range Management (4 cr)	
AGRO 269 Principles of Soil Management (3 cr)	
AGRO 366 Soil Nutrient Relationships (4 cr)	
AGRO 426 Invasive Plants (3 cr)	
ENTO 308 Management of Field Crop Insects (3 cr)	
PLPT 369 Introductory Plant Pathology (3 cr)	

## Mathematics and Statistics (*beyond college algebra*).....

(*hrs listed in core*)

*Select from:* MATH 106 Analytical Geometry & Calculus I (recommended) (5 cr) **or** MATH 104 Calculus for Managerial & Social Sciences (3 cr)

31

<b>Natural Sciences.....</b>	<b>31</b>
AGRO/HORT 325 Introductory Plant Physiology .....	4
BIOC 321 Elements of Biochemistry.....	3
BIOS 109 General Botany .....	4
CHEM 109 General Chemistry I .....	4
CHEM 110 General Chemistry II.....	4
CHEM 252 Organic Chemistry II.....	3
CHEM 253 Organic Chemistry Lab.....	1
NRES 220 Principles of Ecology (3 cr) <b>or</b> AGRO 440 Great Plains Ecosystems (3 cr) .....	3
PHYS 142 Elementary General Physics II.....	5

## Electives.....

*A minimum of 9 credit hours must be taken from the following lists:*

### Recommended for students interested in crop improvement:

AGRO 216 Plant Breeding Principles & Practice (2 cr)	
AGRO 411 Crop Genetic Engineering (1 cr)	
AGRO 412 Crop & Weed Genetics (1 cr)	
BIOC 433 Biochemistry II (2 cr)	
BIOS 103 Biodiversity (4 cr)	

BIOS 312 Fundamentals of Microbiology (3 cr)	
BIOS 425 Plant Biotechnology (3 cr)	

### Recommended for students interested in integrated grain/forage crop management:

AGRO 405 Crop Management Strategies (3 cr)	
AGRO 431 Site Specific Crop Management (3 cr)	
AGRO 436 Agroecosystems Analysis (3 cr)	
AGRO 437 Uses of Grain (2 cr)	
AGRO 438 Production of Specialty Grain (1 cr)	
AGRO 426 Invasive Plants (3 cr)	
ASCI 250 Animal Management (3 cr)	
ASCI 320 Animal Nutrition & Feeding (3 cr)	
AGRO 340 Range Management & Improvement (3 cr)	
AGRO 445 Livestock Management on Range & Pasture (3 cr)	

### Recommended for students interested in soil science:

AGRO/SOIL 455 Soil Chemistry & Mineralogy (3 cr)	
AGRO/SOIL 460 Soil Microbiology (3 cr)	
AGRO/SOIL 461 Soil Physics (3 cr)	
AGRO/SOIL 477 Great Plains Field Pedology (4 cr)	
HORT/SOIL 453 Urban Soils (3 cr)	

**Option Total.....**

**Free Electives .....**

**Grand Total.....**

**Free Electives .....**

*Other suggested courses:*

ASCI 250 Animal Management (3 cr)	
CIVE 353 Hydrology (3 cr)	
GEOG 420 Digital Image Analysis of Remote Sensing Data (4 cr)	
GEOL 101 Physical Geology (4 cr)	
NRES 281 Intro to Water Science (3 cr)	
NRES 323 Natural Resources Policy (3 cr)	

**Grand Total.....**

## Agronomy Minor

Requirements for the minor include a minimum of 18 credit hours of course work, including at least 6 hours at the 300 level or above. A total of no more than 3 hours of credit in AGRO 496 and AGRO 295 can be applied to the minor.

Students who wish to minor in agronomy must first be assigned an adviser by the Department of Agronomy. The student's program must be approved by the minor adviser with copies of the approved program sent to the director of Registration and Records and the dean of the student's college.

Hours

<b>Core Courses.....</b>	<b>8</b>
AGRO 131 Plant Science .....	3
AGRO 132 Plant Science Lab.....	1
AGRO 153 Soil Resources .....	4
<b>Additional Courses.....</b>	<b>10</b>
<i>Select from:</i> AGRO 204, 220, 240 (RNGE), 269 (SOIL), 295 (RNGE, SOIL), 366 (SOIL), 405, 408 (NRES, GEOG, HORT, WATS, BIOS 457/857), 431 (AGEN, MSYM), 435 (HORT, NRES), 496 (RNGE, SOIL)	

## Courses of Instruction (AGRO)

**110. Exploring Plant Biology** (HORT, NRES 110) (1 cr) Lec, rct. Plant biology and associated careers through interaction with university, industry, and/or government agency biologists and/or upper division undergraduate students working in the various disciplines of plant biology.

(ACE 4) [ES] **131. Plant Science** (3 cr I, II) Lec 2, rct 1. Biology of plants grown for food, fiber, fun, or fuel. Plant life cycles in managed ecosystems and their role in global carbon and water cycles. Mechanisms plants use to drive and control their growth, propagate, and change to compete with other organisms in their environment.

[ES] **132. Plant Science Laboratory** (1 cr I) Lab 2. Prereq: AGRO 131 or parallel. *AGRO 132 requires the completion of a plant science experiment.* Growth, development, morphology and staging of annual and perennial monocot and dicot plants produced for grain, forage and grazing. Evaluation of seed, grain and forage quality for plants of agronomic importance.

[ES][IS] **153. Soil Resources** (HORT, SOIL 153) (4 cr I, II) Lec 1, act 4. Prereq: High school chemistry or one semester college chemistry. Characteristics of soils in relation to their appropriate uses and protection. Principles and practices using cooperative exercises including discussion, assessment, planning, problem-solving, writing, and presentation involving all aspects of soils.

**160. Current Topics in Plant Protection I** (PLPT, ENTO, HORT 160) (1 cr) Lec 1.

For course description, see PLPT 160.

**201. Agronomic Internship and Career Preparation** (1 cr I) Lec 1. Open only to freshmen or sophomores.

Group activities to help formulate career goals, improve academic success skills, develop a resume and select an appropriate internship.

### Recommended for students interested in a career in site-specific crop management:

AGRO/AGEN/MSYM 431 Site-specific Crop Management (3 cr)	
NRES/GEOG 312 Intro to Geospatial Information Sciences (3 cr)	
NRES/GEOG 412 Intro to Geographic Information Systems (4 cr)	
NRES/GEOG 418 Intro to Remote Sensing (4 cr)	
NRES 420/AGRO, GEOG, GEOL 419 Application of Remote Sensing in Agriculture & Natural Resources (4 cr)	

**Option Total.....**

**204. Resource-Efficient Crop Management** (3 cr II) Lec 3. Prereq: AGRO 131 and AGRO/SOIL 153, or equivalents. Integration of principles of crop and soil science, plant breeding, climatology and integrated pest management in the development and evaluation of crop management practices. Efficient use of solar radiation, water, nutrients, heat, carbon dioxide, and other resources in field crop management.

**216. Plant Breeding Principles and Practice** (BIOS, HORT 216) (2 cr) Lec 2. Prereq: High school biology and chemistry. BIOS 101 and 101L, or 102 or equivalent recommended.

Plant breeding theory and technique. Application of genetic principles to plant improvement. Experience with breeding agronomic and horticultural plant species to illustrate plant mating systems and breeding principles.

**227. Introductory Turfgrass Management** (TLMT, HORT, PGMP 227) (3 cr, max 3 II) Lec 2, lab 3. Prereq: AGRO 131 or HORT 130 or BIOS 109.

For course description, see TLMT 227.

**228. Introduction to Landscape Management** (TLMT, HORT, PGMP 228) (3 cr II) Lec 2, lab 3. Prereq: AGRO 131 or BIOS 109. *TLMT/AGRO/HORT/PGMP 228 uses a team approach to problem solving, discussion, assessment planning and oral presentations of applied case studies.*

For course description, see TLMT 228.

**[IS] 240. Forage Crop and Range Management** (RNGE 240) (4 cr I) Lec 3, lab 2. Prereq: AGRO 131 or BIOS 109 or equivalent. Principles basic to the establishment, management, and utilization of forage crops, pastures, and ranges. Plant identification and selection, seeding, fertilization, plant community manipulation, forage/range quality and utilization, and range management. The role of forages and ranges in developing a sustainable agriculture.

**242. North American Wildland Plants** (HORT, RNGE 242) (1 cr, max 4 I, II) Lec 3. Prereq: Permission, AGRO/RNGE 240 recommended.

Identification and description of 200 important wildland plants of North America. Characteristics of these plants evaluated in terms of management implications.

**260. Current Topics in Plant Protection II** (PLPT, ENTO 260, HORT 159) (1 cr II) Lec 1. Prereq: Sophomore standing. For course description, see PLPT 260.

**269. Principles of Soil Management** (SOIL 269) (3 cr I) Lec 3. Prereq: AGRO 153.

Principles of soil management under dryland and irrigated conditions. Relationships of soil and climate resources to soil erosion, movement and storage of soil water, soil organic matter, and irrigation practice. Special problem topics such as acidity, alkali, drainage, and soil testing.

**270. Biological Invaders** (PLPT/HORT/NRES 270) (3 cr I) Prereq: 3 hrs biological sciences.

For course description, see PLPT 270.

**279. Soil Evaluation** (NRES, SOIL 279) (1 cr, max 3 I, II) For course description, see SOIL 279.

**295. Internship in Agronomy** (RNGE, SOIL 295) (1-3 cr, max 5 I, II, III) Fld. Prereq: Sophomore standing and completion of internship approval form. *The internship proposal is subject to approval by the department. Pass/No Pass only. Written and oral report usually required.*

Participation in agronomic applications and in agronomy-related areas of agribusiness; agronomic research in lab, greenhouse, or field; participation in farming practices other than those in which the student has had previous experience; or preparation of teaching materials.

**305. Geography of Agriculture** (GEOG, HORT 305) (3 cr II) Lec 2, lab 3. Prereq: AGRO 131 or 153 or HORT 130 or GEOG 140 or 155 or equivalent.

Historical, cultural and biophysical constraints of American agriculture through the integration of Web-based sources (USDA geospatial databases), geographic information systems, and spatial/temporal models. Introduction to crops and evolution of agriculture in North America and available digital resources (biogeoinformatics) to understand the patterns, trends, people, places and processes of rural landscapes.

**315. Genetics** (4 cr I, II) Lec 3, rec-lab 2. Prereq: 3 hrs biological sciences. *Students with credit in BIOS 241 may register for 1 credit only.*

Principles of inheritance in plants and animals and their significance in biology and agriculture. Emphasis on the physical basis of heredity in families and populations. Laboratory problems and experiments illustrate principles of heredity.

**325. Introductory Plant Physiology** (4 cr) Lec 3, lab 3. Prereq: Chemistry through organic or higher-level course in cell biology. Botany recommended.

**326. Landscape Solutions** (TLMT, HORT, PGMP 326) (3 cr I) Lec 1, lab 4. Prereq: TLMT/AGRO/HORT/PGMP 227 or 228. For course description, see TLMT 326.

**[ES] 327. Turfgrass Science and Management** (TLMT, HORT, PGMP 327) (3 cr I) Lec 2, lab 3. Prereq: AGRO/HORT/SOIL 153, BIOS 109, CHEM 109 or parallel, or HORT 221. For course description, see TLMT 327.

**328. Turfgrass Equipment** (TLMT, HORT, PGMP 328) (1 cr I) Lec 1, lab 2. For course description, see TLMT 328.

**329. Landscape Equipment** (TLMT, HORT 329) (1 cr I) Lec 1, lab 2. For course description, see TLMT 329.

**330. Pruning Ornamentals** (TLMT, HORT 330) (1 cr I) Lec 1, lab 2. *TLMT/AGRO/HORT 330 will be offered during the last five weeks of the second semester.* For course description, see TLMT 330.

**340. Range Management and Improvement** (RNGE 340) (3 cr II) Lec 3. Prereq: AGRO 240.

The principles of range management within the ecosystem framework. Range improvement practices and grazing systems; plant control using biological, chemical and mechanical factors; prescribed burning; range seeding; range fertilization; and the integration of range with other forage resources.

**361. Soils, Environment and Water Quality** (GEOL, NRES, SOIL, WATS 361) (3 cr II) Lec 3. Prereq: AGRO/HORT/SOIL 153; MATH 102 or 103; and one semester CHEM or equivalent. For course description, see SOIL 361.

**[IS] 366. Soil Nutrient Relationships** (SOIL 366) (4 cr II) Lec 3, lab 3. Prereq: AGRO 153.

Use of fertilizers as plant nutrient sources to produce healthy and nutritious plants, improve profit, insure enterprise sustainability, fulfill legal requirements, and protect soil and water quality. Addresses issues from production agriculture, natural resource utilization and preservation, and ornamental plant culture.

**370. Biology of Fungi** (PLPT/HORT 370) (3 cr I) Prereq: 8 hrs biological sciences.

For course description, see PLPT 370.

**390. Current Topics in Plant Protection III** (PLPT, ENTO, HORT 390) (1 cr, max 2 II) Lec 1. Prereq: Junior standing. For course description, see PLPT 390.

**395. Career Experience**<sup>1</sup> (HORT, TLMT 395) (1-5 cr, max 5) Fld. Prereq: Sophomore standing; HORT or AGRO or TLMT major. *HORT/TLMT/AGRO 395 requires advanced permission before registering for the course. A written and oral report is required at the completion of the career experience.* For course description, see HORT 395.

**401. Professional Development for Agronomists** (1 cr II) Lec 2. Prereq: AGRO 201 and 295.

Development of career goals and evaluation of careers including industry, farming, additional education, and methods of life-long learning. The transition from college to professional life. Approaches to problems that face agronomists in the future.

(ACE 10) **[IS] 405. Crop Management Strategies**<sup>1</sup> (3 cr I) Lec 3. Prereq: Senior standing; AGRO 204; AGRO/SOIL 269; and permission. JGEN 200 and/or 300, and AEON 201 recommended.

*Requires participation in a three-day field trip prior to the beginning of the first semester. Students must notify instructor at time of early registration (dates are listed in Schedule of Classes). Cannot be taken Pass/No Pass.*

Application, expansion, and integration of principles from agricultural, biological, and physical sciences into the development and management of cropping systems.

**406/806. Plant Ecophysiology: Theory and Practice** (HORT, NRES 406/806) (4 cr) Lec 3, lab 1. Prereq: Junior standing; 4 hrs ecology; and 4 hrs botany or plant physiology. *Offered fall semester of even-numbered calendar years.*

For course description, see NRES 406/806.

**408/808. Microclimate: The Biological Environment** (NRES, GEOG, HORT, METR 408/808; WATS 408) (3 cr) Prereq: Junior standing, MATH 106 or equivalent, 5 hrs physics, major in any of the physical or biological sciences or engineering; or permission. For course description, see NRES 408/808.

**411/811. Crop Genetic Engineering** (1 cr)

Basic steps required to produce genetically engineered crops. Genetic engineering procedures used to develop current crops and innovations that will lead to future products. Genetic engineering process and predicting how changes in different steps of the process influence the final crop. Application of genetic engineering technology to plan the development of new genetically engineered crops.

**412/812. Crop and Weed Genetics** (1 cr)

Application of classical and molecular genetic principles to the explanation of variation observed in plant families and populations. Interpretation of information gathered from whole plant trait observation and from molecular analysis. Relationships between crops and weeds. Examples from genetic studies on both crop and weed species are the basis of course.

**413/813. Turfgrass and Landscape Weed Management** (TLMT, HORT 413/813) (1 cr II) Lec 1, lab 2. For course description, see TLMT 413/813.

**419/819. Applications of Remote Sensing in Agriculture and Natural Resources** (GEOG, GEOL 419/819; NRES 420/820) (4 cr) Lec 3, lab 2. Prereq: GEOG/NRES 418/818 or permission. For course description, see GEOG 419/819.

**424/824. Plant Nutrition and Nutrient Management** (HORT 424/824) (3 cr II) Lec 3. Prereq: AGRO 325 or basic course in plant physiology. A course in organic chemistry or biochemistry recommended. Offered spring semesters. For course description, see HORT 424/824.

**426/826. Invasive Plants** (HORT, NRES 426/826) (3 cr II) Lec 2, lab 2. Prereq: AGRO/HORT/SOIL 153; BIOS 109.

Identification, biology and ecology of weedy and invasive plants. Principles of invasive plant management by preventative, cultural, biological, mechanical, and chemical means using an adaptive management framework. Herbicide terminology and classification, plant-herbicide and soil-herbicide interactions, equipment calibration and dosage calculations.

(ACE 10) **427/827. Critical Thinking in Turfgrass Management**<sup>1</sup> (TLMT, HORT 427/827, PGMP 427) (3 cr I) Lec 2, lab 2. Prereq: 9 hrs agricultural plant science and 3 hrs soil science. Capstone course. *TLMT/AGRO/HORT 427/827/PGMP 427 involves class discussion, case studies, field trips, and demonstrations.* For course description, see TLMT 427/827.

**431. Site-specific Crop Management** (AGEN, MSYM 431) (3 cr I) Lec 2, lab 3. Prereq: Senior standing; AGRO/SOIL 153; AGRO 204; or permission.

Principles and concepts of site-specific management. Evaluation of geographic information systems for crop production practices. Practical experience with hardware and software necessary for successful application of information affecting crop management.

**434/834. Plant Biochemistry** (BIOC, BIOS, CHEM 434/834) (3 cr, II) Lec 3. Prereq: BIOC/BIOS/CHEM 431/831. *Offered every other year beginning spring 2007.* For course description, see BIOC 434.

**[IS] 435/835. Agroecology**<sup>1</sup> (HORT, NRES 435/835) (3 cr II) Lec 3. Prereq: For AGRO/HORT/NRES 435: Senior standing or permission. For AGRO/HORT/NRES 835: 12 hrs biological or agricultural sciences or permission. *Team projects for developing communication skills and leadership skills.*

Integration of principles of ecology, plant and animal sciences, crop protection, and rural landscape planning and management for sustainable agriculture. Includes natural and cultivated ecosystems, population and community ecology, nutrient cycling, pest management, hydrologic cycles, cropping and grazing systems, landscape ecology, biodiversity, and socioeconomic evaluation of systems.

**436/836. Agroecosystems Analysis** (HORT 436/836) (3 cr III) Fld. Prereq: Senior standing. Cost of travel required. Summer travel course with multi-state faculty. *Farm visits to Iowa, Minnesota and Nebraska.* Analysis of production, economics, environmental impacts, and social integration aspects of farms and farming systems.

**437/837. Animal, Food and Industrial Uses of Grain** (2 cr II) Lec 3. Prereq: CHEM 105 or 109, and one of the following: AGRO 204 or ASCI 250.

Identification and comparison of grain quality characteristics desired by livestock feeders, human food processors and industrial users, and methods used to measure these characteristics.

**438/838. Producing Grain for Animal, Food and Industrial Uses** (1 cr II) Lec. Prereq: CHEM 109 and one of the following: AGRO 204 or ASCI 250. AGRO 315 and 437/837 recommended. Genetic development, production practices, and grain handling and storage procedures to deliver quality grain to livestock feeders, human food processors and industrial users.

**440/840. Great Plains Ecosystem** (RNGE 440) (3 cr II) Lec 3. Prereq: Junior standing. BIOS 101 and 101L, or equivalent, recommended.

Characteristics of Great Plains ecosystems, interrelationships of ecological factors and processes, and their application in the management of grasslands. Interactions of fire, vegetation, grazing animals and wildlife are emphasized.

**441/841. Perennial Plant Function, Growth, and Development** (HORT 441/841, RNGE 441) (3 cr II) Lec 3. Prereq: AGRO 325 or equivalent.

Principles of crop physiology and developmental morphology in relation to function, growth, development, and survival of perennial forage, range, and turf plants. Relationship of physiology and morphological development on plant use and management.

**442/842. Wildland Plants** (RNGE 442) (3 cr I) Lec 2, lab 4.

Prereq: Junior standing. BIOS 101 and 101L, or equivalent, recommended.

Wildland plants that are important to grassland and shrubland ecosystem management and production. Distribution, utilization, classification, identification (including identification by vegetative parts), uses by Native Americans, and recognition of grasses, forbs, shrubs, exotic and wetland plants.

**444/844. Vegetation Analysis** (RNGE 444) (3 cr I) Lec 2, lab 4. Prereq: Junior standing. BIOS 101 and 101L, or equivalent, recommended.

Criteria by which grassland are analyzed. Vegetation sampling techniques, measurement and evaluation of grasslands, and measurement of important environmental factors. Evaluations of habitat improvement practices, wildlife value, recreational value, and watershed value.

**[IS] 445/845. Livestock Management on Range and Pasture**

<sup>1</sup> (ASCI 451/851, RNGE 445) (3 cr I) Lec 2. Prereq: ASCI 250 and AGRO 240 or 340; AECN 201 recommended. All students required to participate in a one-week field trip in central or western Nebraska prior to beginning of fall semester. Therefore, students must notify instructor at time of early registration. (Dates are given in the Schedule of Classes.)

Analyzing the plant and animal resources and economic aspects of pasturage. Management of pasture and range for continued high production emphasized.

**450/850. Climate and Society** (GEOG, METR 450/850; NRES 452/852) (3 cr II) Prereq: METR 200 or 351 or equivalent, or permission. Offered spring semester of even-numbered calendar years. For course description, see NRES 452/852.

**453. Urban Soil Properties and Management** (HORT, LARC, SOIL 453) (3 cr I) Lec 3. Prereq: AGRO/HORT/SOIL 153. For course description, see HORT 453.

Intended for intensive human uses. Manipulation and remediation of soils subject to construction and other stresses.

**455/855. Soil Chemistry and Mineralogy** (SOIL 455, NRES 455/855) (3 cr I) Lec 3. Prereq: AGRO/HORT/SOIL 153 or GEOL 101; CHEM 109 and 110; CHEM 221 or 251 or equivalent.

Chemical and mineralogical properties of soil components. Inorganic colloidal fraction. Structures of soil minerals as a means of understanding properties, such as ion exchange and equilibria; release and supply of nutrient and toxic materials; and soil acidity and alkalinity.

**457/857. Soil Chemical Measurements** (SOIL 457, NRES 457/857) (2-3 cr, max 3 I) Lec 2, lab 4-6. Prereq: AGRO/SOIL 153, CHEM 116 or 221 or equivalent or permission. *Permission required to register for 2 cr. Students registered for 3 cr will design, carry out, and report on an independent study project conducted during the term. Offered even-numbered calendar years.*

Theory and practice of soil chemical analyses commonly encountered in research and industrial settings. Wet analyses of inorganic fraction of soil and operation of instrumentation necessary to quantify results of those analyses.

**458/858. Soil Physical Determinations**<sup>1</sup> (NRES 458/858, SOIL 458) (2 cr I) Lab 3, plus 3 hrs arr. Prereq: SOIL/AGRO/GEOL/WATS 361; PHYS 141 or equivalent; MATH 102 or 103. *Graduate students in NRES/AGRO 458/848 or SOIL 458 are expected to carry out an independent project and give an oral report.* For course description, see NRES 458/858.

**460/860. Soil Microbiology** (BIOS 447/847; NRES 460/860; SOIL 460) (3 cr II) Lec 3. Prereq: One semester microbiology; one semester biochemistry or organic chemistry.

Soil from a microbe's perspective—growth, activity and survival strategies; principles governing methods to study microorganisms and biochemical processes in soil; mechanisms controlling organic matter cycling and stabilization with reference to C, N, S, and P; microbial interactions with plants and animals; and agronomic and environmental applications of soil microorganisms.

**461/861. Soil Physics** (GEOL, NRES 461/861; SOIL, WATS 461) (3 cr I) Lec 3. Prereq: AGRO/SOIL 153, PHYS 141 or equivalent, one semester of calculus. Recommended: Parallel AGRO/NRES/SOIL 458.

For course description, see NRES 461/861.

**469/869. Bio-atmospheric Instrumentation** (GEOG, MSYM, METR, NRES 469/869; HORT 407/807) (3 cr I) Lec 2/lab 1.

Prereq: Junior standing; MATH 106; 4 hrs physics; physical or biological science major. Offered fall semester of odd-numbered calendar years.

For course description, see NRES 469/869.

**(ACE 10) [IS] 470. Critical Thinking in Landscape Management** (HORT, TLMT 470) (3 cr II) Lec 1, lab 3. Prereq: AGRO/HORT/PGMP/TLMT 326. *Form a landscape management company.* For course description, see TLMT 470.

**(ACE 10) 475/875. Water Quality Strategy**<sup>1</sup> (CRPL, CIVE, GEOL, MSYM, NRES, POLS, SOCI 475/875; SOIL, WATS 475) (3 cr II) Lec 3. Prereq: Senior standing or permission.

Holistic approach to the selection and analysis of planning strategies for protecting water quality from nonpoint sources of contamination. Introduction to the use of methods of analyzing the impact of strategies on whole systems and subsystems; for selecting strategies; and for evaluating present strategies.

**[IS] 477/877. Great Plains Field Pedology** (NRES 477/877, GEOG 467/867, SOIL 477) (4 cr II) Lec 3. Lab. Prereq: AGRO/SOIL 153 or permission.

For course description, see NRES 477/877.

**480/880. Modified Rootzones** (TLMT, HORT 480/880) (1 cr I, II) Lec 1, lab 2. Prereq: AGRO/HORT/SOIL 153. *TLMT/AGRO/HORT 480/880 is offered as a five-week course.* For course description, see TLMT 480/880.

**481/881. Water Resources Seminar** (GEOG 481/881; GEOL, NRES 415/815) (1 cr II) Prereq: Junior standing or above or permission. Seminar on current water resources research and issues in Nebraska and the region.

**[IS] 489/889. Urbanization of Rural Landscapes** (CRPL/HORT 489/889) (3 cr II) Lec 3. Prereq: Senior standing, graduate standing, or permission.

Development converts rural landscapes into housing, roads, malls, parks, and commercial uses. This process fragments landscapes and changes ecosystem functions, drives up land prices, and pushes agriculture into more marginal areas. This multi-disciplinary, experiential course guides students in learning about the urbanization process, the impacts on landscapes, people, and the community, and the choices that are available to informed citizens.

**495. Grasslands Seminar** (ENTO, GRAS, HORT, NRES, RNGE, SOIL 495) (1-2 cr, max 4 cr I) Prereq: Junior standing. For course description, see GRAS 495.

**496/896. Independent Study** (RNGE, SOIL 496) (1-6 cr, max 6 I, II, III)

**498. Senior Project**<sup>1</sup> (SOIL 498) (1-3 cr, max 3 I, II) Prereq: Senior standing. A two-semester sequence. Students should select one credit hour the first semester and three credits the second semester. The first semester will be used for planning, topic selection, and identifying a project adviser. The second semester will be used to carry out the research project, prepare a written report, and possibly an oral presentation. Carry out and report on a research project.

**499H. Honors Thesis** (RNGE, SOIL 499H) (3-6 cr, max 6 I, II, III) Prereq: Admission to the University Honors Program and permission, AGRI 299H recommended. Conduct a scholarly research project and write a University Honors Program or undergraduate thesis.

**807. Plant-Water Relations** (NRES 807; BIOS 817) (3 cr I) Lec 3. Prereq: AGRO 325 or equivalent; MATH 106 recommended.

**810. Plant Molecular Biology** (BIOC, BIOS, HORT \*810) (3 cr II) Lec 3. Prereq: AGRO 315 or BIOS 206, BIOC 831 or permission.

**815A. Self-Pollinated Crop Breeding** (ENTO 815A) (1 cr I)

**815B. Germplasm and Genes** (ENTO 815B) (1 cr I)

**815D. Cross Pollinated Crop Breeding** (ENTO 815D) (1 cr I)

**818. Agricultural Biochemistry** (BIOC 818) (2 cr) Prereq: Undergraduate degree with a major related to the life sciences and a course in biochemistry.

**822. Integrated Weed Management** (HORT \*822) (1 cr) Lec 1. Prereq: 12 hrs AGRO and/or closely related HORT and/or BIOS courses.

**823. Herbicide Action in Plants** (1 cr) Lab. Prereq: 12 hrs AGRO or closely related BIOS courses.

**899. Masters Thesis** (6-10 cr) Pass/No Pass only.

Refer to the Graduate Bulletin for 900-level courses.

## Animal Science

**Interim Head:** Professor Sheila Scheideler, Department of Animal Science, C203 Animal Sciences

**Professors:** Brink, Burson, Calkins, Johnson, Jones, Klopfenstein, Mandigo, Miller, Nielsen, Rasby, Scheideler, VanVleck

**Associate Professors:** Anderson, Cupp, Erickson, Miner, Reese, Reiling, White

**Assistant Professors:** Burkey, Ciobanu, Karr-Lilenthal, Kononoff, Spangler, Wood

**Lecturers:** Ellicott, Michaud

**Coordinator for Undergraduate Research:** Nielsen

The field of animal science encompasses the sciences related to animals and their contributions and interactions with humans. This program is designed particularly for students who are interested in pursuing careers associated with the livestock, poultry, meat and companion animal industries. The core curriculum gives students a balanced education in animal science, biological sciences, physical sciences, mathematics, communications, and humanities and social sciences.

Each animal science student studies a core curriculum that provides a comprehensive look at animal biological systems, use of animal products, and current issues and careers in the animal industries. In addition to the core, there are seven different options from which students can choose an area of focus which meets their own individual interests and career objectives. These options include: Animal Biology; Animal Production and

Management; Business; Companion Animal Science; Equine Sciences; Meat Science; and Veterinary Animal Sciences.

Students interested in any aspect of poultry science or avian biology may earn up to 24 credits through the Midwest Poultry Consortium's Undergraduate Center of Excellence at Madison, WI. The credits may be applied toward an animal science degree from the University of Nebraska. Further details are available from the Animal Science Department.

Students pursuing a DVM degree at an accredited college of veterinary medicine may obtain a BS degree in animal science, granted by the University of Nebraska, upon satisfactory completion of the first two years of the curriculum in veterinary medicine. To be eligible, students must have completed at least 90 credit hours of preprofessional courses with 20 credit hours in animal science courses at the University of Nebraska. Further details are available from the Animal Science Department.

## Major Core Requirements

The following basic courses are required for majors in animal science. In addition, students must select and meet the requirements of one of the animal science options, depending on their own individual interests and career objectives.

	Hours
<b>College Integrative Courses.....</b>	<b>3</b>
AGRI/NRES 103 Intro to Agriculture & Natural Resource Systems.....	3
<b>Departmental Requirements.....</b>	<b>16</b>
ASCI 100 Fundamentals of Animal Biology & Industry.....	4
ASCI 101 Intro to Animal Science.....	1
ASCI 240 Anatomy & Physiology of Domestic Animals.....	4
ASCI 320 Animal Nutrition & Feeding.....	3
ASCI 491 Animal Science Seminar.....	1
Capstone Course (ACE 10).....	3
<i>Select from:</i>	
ASCI 451 Livestock Management on Range & Pasture (3 cr)	
ASCI 485 Animal Systems Analysis (3 cr)	
ASCI 486 Animal Biological Systems (3 cr)	
<b>Natural Sciences (ACE 4).....</b>	<b>8</b>
AGRO 315 Genetics <b>or</b> BIOS 206 General Genetics.....	4
BIOS 101 & 101L General Biology & Lab <b>or</b> BIOS 102 Cell Structure & Function <b>or</b> BIOS 103 Organismic Biology.....	4
<b>NOTE:</b> Students enrolled in the Veterinary Option are required to take BIOS 103.	
<b>Mathematics and Statistics (ACE 3).....</b>	<b>5</b>
<i>Select from:</i>	
MATH 102 Trigonometry (2 cr)	
MATH 104 Calculus for Managerial & Social Sciences (3 cr)	
MATH 106 Analytical Geometry & Calculus I (5 cr)	
STAT 218 Intro to Statistics (3 cr)	
<b>NOTE:</b> Proficiency at the college algebra level must be demonstrated either by a placement exam or through course work. If MATH 103 is taken, only 2 credit hrs can be counted toward this requirement.	
<b>Communications.....</b>	<b>9</b>
Oral Communications (ACE 2).....	3
<i>Select from:</i> COMM 109, 209, 286; JGEN 300	
Written Communications (ACE 1).....	3
<i>Select from:</i> ENGL 150, 151; JGEN 200	
Communications and Interpersonal Skills.....	3
<i>Select from:</i> ENGL 150, 151; ALEC 102, 305; COMM 109, 209, 212, or 286; JGEN 120, 200, 300	

**Economics, Humanities and Social Sciences.....** 18  
ECON 211 **or** ECON 212 **or** AECN 141..... 3  
ACE Courses..... 12

*Select one course each from ACE outcomes 5, 7, 8, and 9.*

Select one elective in this area..... 3

**Experiential Learning.....** 4

*Select from the following six categories; maximum of 3 cr hours allowed from any one of the six categories.*

Internship and Industry Experience

*Select from:* ASCI 395A, 419, 490A

Study Tours

*Select from:* ASCI 311A, 311B, 311D

Animal & Meat Evaluation Experience

*Select from:* ASCI 300A, 300B, 300D, 300E, 400A,

400B, 400E

Extension & Service Experience (ASCI 395B)

Research Experience (ASCI 395D, 419)

Undergraduate Teaching Experience (ASCI 395E)

**Total Major Requirements.....** 63

**Option Requirements.....** 65

**Total Credit Hours Required for Graduation.....** 128

### Also, select one of the following options

#### Animal Biology Option

This option is designed for students considering careers that deal with basic biological principles of animals and birds. Through careful use of electives, students can develop an emphasis in genetics, growth and muscle biology, nutrition, or physiology as they establish a basic background in biological principles and develop molecular and biotechnology laboratory skills. Completion of this option provides excellent preparation for graduate study, other professional programs including medical or dental school, and many other research-based careers.

Hours

**Departmental Requirements.....** 20

*Select one course from:* 3

ASCI 210 Animal Products

ASCI 250 Animal Management

ASCI 251 Intro to Companion Animals

ASCI 330 Animal Breeding..... 4

ASCI 341 Physiology & Management of

Reproduction..... 4

*Select one course from the following advanced Animal Science disciplinary courses:* 3

ASCI 421 Advanced Animal Nutrition

ASCI 431 Advanced Animal Breeding

ASCI 441 New Techniques in Reproductive Biology

ASCI 442 Endocrinology

Additional Animal Science courses..... 6

*Select from ASCI 300- and 400-level courses. (excluding ASCI 399 and 496)*

**Natural Science.....** 24-25

CHEM 109 General Chemistry I..... 4

CHEM 110 General Chemistry II..... 4

CHEM 251 & 253 Organic Chemistry I & Lab..... 4

BIOC 321 & 321L Elements of Biochemistry & Lab (4 cr) **or** BIOC 431 & 433 Biomolecules &

Metabolism and Biochemistry Lab (6 cr)..... 4-6

**NOTE:** BIOC 431 requires CHEM 252 Organic Chemistry II (3 cr)

BIOS 312 & 314 Fundamentals of Microbiology & Lab..... 4

Physics courses..... 4-5

*Select from:* MSYM 109, PHYS 141, or PHYS 151.

**Business Course.....** 3

*Select a course from the "Business Courses" category listed in the Animal Science Business Option*

**Free Electives\*.....** 17-18

\* Students planning to apply for post-graduate or professional programs should consult their academic adviser for specific program requirements.

#### Animal Production and Management Option

This option is designed for students interested in careers related to the production and management of beef cattle, dairy cattle, horses, poultry, and swine. Although students may emphasize a particular industry or production system, the option provides a balanced study of animal nutrition, meat animal products, reproductive physiology, breeding and genetics, and business management of animal production systems. Completion of this option provides excellent preparation for those wishing to be involved in production agriculture and the abundance of allied industries that support animal agriculture.

Hours

**Departmental Requirements.....** 18-20

ASCI 200 Animal & Carcass Evaluation..... 3

ASCI 210 Animal Products..... 3

ASCI 330 Animal Breeding..... 4

ASCI 341 Physiology & Management of

Reproduction..... 4

ASCI Management Courses..... 4-6

*Select from:* ASCI 450, 451, 452, 453, 454, 455, 457

**Natural Sciences.....** 15-20

Chemistry..... 8-12

*Select from either of the following two chemistry series*

**NOTE:** Chemistry Series 1 (CHEM 105 & 106)

does not provide adequate preparation for advanced chemistry or graduate school. If you desire this advanced training, Series 2 is recommended.

1) CHEM 105 Chemistry in Context I & CHEM 106 Chemistry in Context II..... 8

2) CHEM 109 General Chemistry I and CHEM 110 General Chemistry II and CHEM 251 & 253 Organic Chemistry I & Lab..... 12

BIOS 312 Fundamentals of Microbiology **or** VBMS

303 Principles & Prevention of Livestock Diseases.... 3

Physics Course..... 4-5

*Select from:* MSYM 109, PHYS 141 or PHYS 151.

**Business Courses.....** 9

*Select courses from the "Business Courses" category listed in the Animal Science Business Option.*

**Free Electives .....** 16-23

#### Business Option

This option is designed for students considering careers with companies, financial institutions, government agencies, and other business concerns that support the livestock production and processing industries. Through careful use of electives, students may receive minors in other business-related programs and develop specific expertise for positions in management, marketing, and public relations. Completion of this option provides students with a solid background in both animal science and business.

Hours

**Departmental Requirements.....** 14-16

ASCI 200 Animal & Carcass Evaluation **or** ASCI 210

Animal Products..... 3

ASCI 250 Animal Management **or** ASCI 251 Intro to Companion Animals..... 3

ASCI 330 Animal Breeding **or** ASCI 341 Physiology & Management of Reproduction..... 4

ASCI Management Courses..... 4-6

*Select from:* ASCI 450, 451, 452, 453, 454, 455, and 457

**Natural Sciences.....** 8-12

Chemistry..... 8-12

*Select from either of the following two chemistry series*

**NOTE:** Chemistry Series 1 (CHEM 105 & 106)

does not provide adequate preparation for advanced chemistry or graduate school. If you desire this advanced training, Series 2 is recommended.

1) CHEM 105 Chemistry in Context I & CHEM 106 Chemistry in Context II ..... 8	
2) CHEM 109 General Chemistry I and CHEM 110 General Chemistry II and CHEM 251 & 253 Organic Chemistry I & Lab ..... 12	
<b>Business Courses.....</b>	<b>16-19</b>
Accounting ..... 4-6	
<i>Select from:</i>	
ACCT 201 Introductory Accounting I (3 cr) and ACCT 202 Introductory Accounting II (3 cr)	
ACCT 306 Survey of Accounting (4 cr)	
Selected Business Courses ..... 12-13	
<i>Select a minimum of four courses representing at least three of the following four areas:</i>	
<b>Finance</b>	
AECN 301 Farm Accounting, Analysis, & Tax Management	
AECN 420 International Food & Agricultural Trade	
AECN 452 Agricultural Finance	
AECN 453 Agricultural & Rural Property Appraisal	
ECON 303 An Intro to Money & Banking	
FINA 260 Personal Finance	
FINA 361 Finance	
FINA 365 Financial Institutions & Markets	
<b>Management</b>	
AECN 201 Farm & Ranch Management	
AECN 265 Resource & Environmental Economics I	
AECN 316 Agribusiness Management	
AECN 416 Advanced Agribusiness Management	
MNGT 121 Intro to Entrepreneurial Management	
MNGT 320 Principles of Management	
MNGT 331 Operations & Resources Management	
MNGT 360 Managing Behavior in Organizations	
MNGT 361 Personnel/Human Resource Management	
<b>Marketing</b>	
AECN 225 Agribusiness & Food Products Marketing	
AECN 325 Marketing of Agricultural Commodities	
AECN 425 Agricultural Marketing in a Multinational Environment	
MRKT 341 Marketing	
MRKT 345 Market Research	
MRKT 346 Marketing Channels Management	
MRKT 347 Marketing Communication Strategy	
MRKT 425 Retailing Management	
MRKT 442 Marketing Management	
<b>Law</b>	
AECN 256 Legal Aspects in Agriculture	
AECN 357 Natural Resources & Environmental Law	
AECN 445 Agricultural & Natural Resource Policy Analysis	
AECN 456 Environmental Law	
AECN 457 Water Law	
BLAW 371 Legal Environment	
BLAW 372 Business Law I	
<b>Supporting Course.....</b>	<b>3</b>
ALEC 202 Leadership Development in Small Groups	
<b>Free Electives*</b> ..... 15-24	
<i>* Students are encouraged to consult the Undergraduate Bulletin for details regarding agribusiness and agricultural economics minors.</i>	
<b>Companion Animal Science Option</b>	
Designed for students with a specific interest in companion animals. For students interested in pursuing a career in the companion animal industry, this option provides an overview of the general animal sciences in combination with concentrated study of animal behavior and human interactions along with companion breeding and genetics, nutrition, reproduction, care and management.	
Hours	
<b>Departmental Requirements.....</b>	<b>20-21</b>
<i>Select one course from the following</i> ..... 3	
ASCI 250 Animal Management (3 cr)	
ASCI 251 Intro to Companion Animals (3 cr)	

<i>Select one course from the following</i> ..... 3-4	
ASCI 330 Animal Breeding (4 cr)	
ASCI 399 Horse, Dog, & Cat Genetics & Breeding (3 cr)	
ASCI 341 Physiology & Management of Reproduction ..... 4	
ASCI 321 Companion Animal Nutrition ..... 3	
<i>Select a minimum of 7 credits from the following courses:</i> ..... 7	
FDST/ASCI 107 Intro to the Companion Animal Food Industry (1 cr)	
ASCI 171 Human-Companion Animal Interactions (2 cr)	
ASCI 271 Companion Animal Behavior (3 cr)	
ASCI 322 Equine Nutrition (2 cr)	
ASCI 342 Equine Reproduction (2 cr)	
ASCI 370 Animal Welfare (3 cr)	
BIOS 462 Animal Behavior (3 cr)	
<b>Natural Sciences.....</b>	<b>15-20</b>
Chemistry ..... 8-12	
<i>Select from either of the following two chemistry series</i>	
NOTE: Chemistry Series 1 (CHEM 105 & 106) does not provide adequate preparation for advanced chemistry or graduate school. If you desire this advanced training, Series 2 is recommended.	
1) CHEM 105 Chemistry in Context I & CHEM 106 Chemistry in Context II ..... 8	
2) CHEM 109 General Chemistry I and CHEM 110 General Chemistry II and CHEM 251 & 253 Organic Chemistry I & Lab ..... 12	
BIOS 312 Fundamentals of Microbiology or VBMS 303 Principles & Prevention of Livestock Diseases ..... 3	
Physics Course ..... 4-5	
<i>Select from: MSYM 109, PHYS 141, or PHYS 151</i>	
<b>Business Courses.....</b>	<b>9</b>
<i>Select courses from the "Business Courses" category listed in the Animal Science Business Option.</i>	
<b>Free Electives</b> ..... 15-21	
<b>Equine Science Option</b>	
Designed for students with a specific interest in the equine area. For students interested in pursuing a career in the equine industry this option provides a combination of general animal sciences with a concentrated study of equitation, evaluation, nutrition, reproduction, and management of equine.	
Hours	
<b>Departmental Requirements.....</b>	<b>17-18</b>
ASCI 260 Basic Equitation or ASCI 360 Advanced Equitation ..... 2	
ASCI 250 Animal Management or ASCI 252 Fundamentals of the Horse Industry ..... 2-3	
ASCI 330 Animal Breeding ..... 4	
ASCI 341 Physiology & Management of Reproduction ..... 4	
ASCI 322 Equine Nutrition or ASCI 342 Equine Reproduction ..... 2	
ASCI 450 Horse Management ..... 3	
<b>Experiential Learning</b>	
<i>From the Animal Science core, select: ASCI 300E Principles of Horse Evaluation &amp; Judging (2 cr) or 400E Advanced Horse Evaluation &amp; Judging (2 cr)</i>	
<b>Natural Sciences.....</b>	<b>15-20</b>
Chemistry ..... 8-12	
<i>Select from either of the following two chemistry series</i>	
NOTE: Chemistry Series 1 (CHEM 105 & 106) is a terminal series. If you desire advanced training in the life sciences, Series 2 is recommended.	
1) CHEM 105 Chemistry in Context I & CHEM 106 Chemistry in Context II ..... 8	
2) CHEM 109 General Chemistry I and CHEM 110 General Chemistry II and CHEM 251 & 253 Organic Chemistry I & Lab ..... 12	
BIOS 312 Fundamentals of Microbiology or VBMS 303 Principles & Prevention of Livestock Diseases ..... 3	
Physics course ..... 4-5	
<i>Select from: MSYM 109, PHYS 141, or PHYS 151</i>	

<b>Business Courses.....</b>	<b>9</b>
Select courses from the "Business Courses" category listed in the Animal Science Business Option	
<b>Free Electives</b> ..... 16-22	

## Meat Science Option

This option is designed for students seeking careers associated with the meat and food industry, including research and product development, quality assurance, food safety, fresh meat processing, meat product manufacturing, equipment and ingredient technology, and government service. Students will build a solid foundation in product characteristics, product development, production, food safety, and marketing of fresh and processed meats. Completion of the industry emphasis provides excellent preparation for a career in the meat and food industry and completion of the science emphasis provides excellent background for graduate study in meat or food science.

<b>Hours</b>	
<b>Departmental Requirements.....</b>	<b>14</b>
ASCI 200 Animal & Carcass Evaluation ..... 3	
ASCI 210 Animal Products ..... 3	
ASCI 211 Meat Technology Laboratory ..... 2	
ASCI 310 Fresh Meats ..... 3	
ASCI 410 Processed Meats ..... 3	

## Experiential Learning

*From the Animal Science core, one selection must be from Internship and Industry Experience: (ASCI 395A, 419, or 490A) or Study Tour (ASCI 311B)*

## Math

*From the Animal Science core, select: STAT 218 Intro to Statistics*

<b>Hours</b>	
<b>Natural Sciences.....</b>	<b>7-8</b>
From the Animal Science core, select: BIOS 102 Cell Structure & Function	
Select a Physics course from: MSYM 109, PHYS 141, or PHYS 151 ..... 4-5	
BIOS 312 Fundamentals of Microbiology ..... 3	

## Select additional courses from the Industry Emphasis or the Science Emphasis

**Industry Emphasis**—Intended for a career in the industry; not adequate preparation for graduate school.

<b>Experiential Learning</b> ..... 1	
From the Animal Science core, select: ASCI 300A or 300D	

Natural Sciences ..... 8	
CHEM 105 Chemistry in Context I ..... 4	
CHEM 106 Chemistry in Context II ..... 4	

Additional Courses ..... 15	
FDST 372 Food Safety & Sanitation ..... 3	
FDST 460 Food Product Development Concepts ..... 3	
Select additional courses from ASCI or FDST at 200 level or above ..... 9	

<b>NOTE:</b> These courses are beyond those required for experiential learning.	
Business Courses ..... 9	
ACCT 201 Introductory Accounting I ..... 3	
AECN 225 Agribusiness & Food Products Marketing ..... 3	
Select one additional course from the "Business Courses" category listed in the Animal Science Business Option ..... 3	

<b>Free Electives</b> ..... 11-12	
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**Science Emphasis**—Intended as preparation for graduate school or a career in the industry.

Natural Sciences ..... 12	
CHEM 109 General Chemistry I ..... 4	
CHEM 110 General Chemistry II ..... 4	
CHEM 251 & 253 Organic Chemistry I & Lab ..... 4	

Additional Courses ..... 14-15	
Select two courses from: ..... 5-6	
FDST 372 Food Safety & Sanitation (3 cr)	

FDST 403 Food Quality Assurance (3 cr)	
FDST 405 Food Microbiology (3 cr)	
FDST 406 Food Microbiology Lab (2 cr)	

Select additional courses from ASCI or FDST at 200 level or above .....	9
NOTE: These courses are beyond those required for experiential learning.	
Business Courses .....	6
Select courses from the "Business Courses" category listed in the Animal Science Business Option	
Free Electives .....	11-12

## Veterinary Animal Sciences Option

This option is designed for students planning a career in veterinary medicine, and provides for completion of the pre-veterinary course requirements for application to the joint University of Nebraska/Iowa State University program for the doctorate of veterinary medicine (DVM) degree. However, it can easily be adapted to meet specific requirements for other colleges of veterinary medicine. Courses in animal management, nutrition, physiology and related areas complement the foundational science courses and provide a comprehensive background for careers in veterinary medicine. Completion of the option also provides excellent preparation for graduate study or other professional programs in the biological sciences. Students admitted to veterinary college after three years of undergraduate study may earn a bachelor of science degree through a 3+2 program (three years of undergraduate study plus two years of veterinary school).

### Hours

#### Departmental Requirements.....

Select one course from the following:..... 3

    ASCI 210 Animal Products

    ASCI 250 Animal Management

    ASCI 251 Intro to Companion Animals

ASCI 330 Animal Breeding..... 4

ASCI 341 Physiology & Management of

    Reproduction..... 4

Additional Animal Science courses..... 6

    Select from: ASCI 300- and 400-level courses (excluding ASCI 399 and 496)

Natural Sciences..... 27-28

CHEM 109 General Chemistry I..... 4

CHEM 110 General Chemistry II..... 4

CHEM 251 & 253 Organic Chemistry I & Lab..... 4

CHEM 252 Organic Chemistry II..... 3

BIOC 321 Elements of Biochemistry..... 3-4

    or BIOC 431 Biomolecules & Metabolism (4 cr)

BIOC 312 & 314 Fundamentals of Microbiology &

    Lab..... 4

PHYS 141 Elementary General Physics I..... 5

NOTE: Although PHYS 142 is not required for

    admission to the ISU CVM, it is required by other colleges of veterinary medicine including KSU.

Business Courses..... 3

Select a course from the "Business Courses" category listed in the Animal Science Business Option

#### Communications

NOTE: Two writing courses (6 cr) and one oral communications course (3 cr) required.

Select appropriate courses from listing given under "Core Requirements".

Free Electives .....

### 17-18

## Animal Science Minor

A minor requires completing 18 hours of animal science courses including 6 hours at the 300 level or above.

## Courses of Instruction (ASCI)

[ES] 100. **Fundamentals of Animal Biology and Industry** (4 cr I, II) Lec 3, lab 2.

Overview of the industries in animal science; fundamentals of animal biology related to their application in those industries; and trends and current issues related to production and consumption of animal products important for human welfare.

101. **Introduction to Animal Sciences** (1 cr I) Lab 2.

Survey of careers, internships, skills and information resources for students interested in the animal sciences.

107. **Introduction to the Companion Animal Food Industry** (FDST 107) (1 cr I) Lec 1.

For course description, see FDST 107.

150. **Animal Production Skills** (2 cr II) Rct/lab 4.

Introductory course in skills related to proper care and management of production animals. Laboratory sessions develop fundamental skills of animal husbandry.

171. **Human-Companion Animal Interactions** (2 cr I) Lec 2.

Roles of companion animals in society (therapy, education research, and entertainment). The responsibilities of humans in these relationships.

181. **Beef Industry Scholars-Freshman Seminar** (1 cr II) Lec 1.

Prereq: Acceptance into the Nebraska Beef Industry Scholars (NBIS) program. ASCI 181 is 'Letter grade only.'

Introduction to the Nebraska and United States beef industry. Discussion of issues by invited beef industry leaders and on-site visits of industry organizations.

200. **Animal and Carcass Evaluation** (3 cr I) Lec 2, lab 2.

Prereq: Sophomore standing.

Comparative evaluation of animals and their carcasses and products. Basic animal growth and development and the characteristics of beef, pork, lamb, and poultry that determine carcass value. Federal and industry product standards. Introduction of economic selection objectives, measurements of animal performance, use of performance records to estimate genetic value and application of procedures of genetic evaluation.

[ES][IS] 210. **Animal Products** (3 cr I, II) Lec/demo 3.

Prereq: ASCI 100.

Knowledge of edible animal products with particular emphasis to meat products from livestock and poultry. Includes all aspects of the meat industry from slaughter to consumption. Methods of slaughter and fabrication, conversion of muscle to meat, processing techniques, preservation and storage, and consumer related topics discussed and demonstrated.

211. **Meat Technology Laboratory** (2 cr I) Lec 1, lab 3.

Prereq: ASCI 210 or permission.

Practical experience in meat slaughter and fabrication of all major livestock species. Includes sanitation, quality assurance and merchandising of meat products.

213. **Meat Specifications and Procurement** (NUTR 213) (3 cr Lec 3.

ASCI/NUTR 213 is for those students who have an interest in a career in Culinary Science, Meat Science, and/or Dietetics.

Selecting and purchasing meat for the hotel, restaurant, institutional industry, and the retail markets.

[ES] 240. **Anatomy and Physiology of Domestic Animals** (4 cr I, II) Lec 3, rct/lab 3.

Prereq: 4 hrs biological sciences.

Fundamentals of the anatomy and physiology of domestic animals.

[ES] 250. **Animal Management** (3 cr I, II) Lec 3.

Prereq: Sophomore standing.

Principles of managing animals in typical production systems. Basics of managing beef, dairy, horses, poultry, sheep, and swine through the life cycle for economic and efficient production.

[IS] 251. **Introduction to Companion Animals** (3 cr I) Lec 3.

Prereq: ASCI 100 or 3 hrs biological sciences.

Overview of pets, their care, nutrition, reproduction behavior, and health issues; exploration of other ways in which these animals can be used (e.g., in therapy, teaching).

252. **Fundamentals of the Horse Industry** (2 cr I) Lec 2.

Scope and role of the horse industry. Development and use of breeds, industry involvement and practices dealing with nutrition, breeding, marketing and management; selection of horses for use in breeding and/or performance based on current

industry standards. Career options dealing with the horse industry.

260. **Basic Equitation** (2 cr I, II) Rct/lab 4.

Prereq: Sophomore standing.

Study and application of basic equitation principles for the novice rider. Basic horse handling practices and adapting dressage maneuvers toward Western and English performance excellence emphasized.

271. **Companion Animal Behavior** (3 cr II) Lec 3.

Prereq: ASCI 100 or 251 or course in introductory biology.

Companion animal behavior. Application of behavior principles to describe normal and problem behaviors of common companion animals.

281. **Beef Industry Scholars-Issues** (1 cr I) Lec 1.

Prereq: ASCI 181.

Nebraska beef industry and supporting organizations (the Nebraska Cattlemen and the Nebraska Beef Council). Tours, attending meetings, and discussion of issues by invited beef industry leaders.

300A. **Principles of Intercollegiate Livestock and Meats Evaluation and Judging—Principles of Meat Evaluation, Grading and Judging** (1 cr II) Lab 4.

Prereq: ASCI 200.

Comparative evaluation of meat characteristics of beef carcasses, beef primal cuts, pork carcasses, pork primal cuts, and lamb carcasses. Federal grade standards for beef carcass and application of USDA Institutional Meat Purchase Specifications.

300B. **Principles of Intercollegiate Livestock and Meats Evaluation and Judging—Principles of Livestock Evaluation and Judging** (2 cr I) Lab 6.

Prereq: Junior standing. ASCI 200 recommended.

Opportunity to become members of the University of Nebraska Livestock Judging Team.

Principles of livestock judging and presentation of oral reasons. Evaluation of body structure and composition differences in breeding and market livestock as related to their use in meat production. Live animal, performance records, genetic evaluations, and breeding livestock scenarios evaluated. Presentation of oral reasons to defend selection decisions.

300D. **Principles of Intercollegiate Livestock and Meats Evaluation and Judging—Principles of Meat Animal Evaluation** (1 cr II) Lab 3.

Prereq: ASCI 300B or permission.

The University of Nebraska Meat Animal Evaluation Team will be selected from students in this course.

Further expertise in breeding animal, market animal, and carcass evaluation. Live animal and carcass grading and pricing.

300E. **Principles of Horse Evaluation and Judging** (2 cr II) Lab 4.

Prereq: Junior standing recommended.

A student enrolled in ASCI 300 will have an opportunity to become a member of the University of Nebraska Horse Judging Team.

Conformation associated with equine structural form and performance standards. Evaluation of performance classes as governed by breed association standards and industry regulations.

Presentation of oral reasons to defend selection decisions.

[ES][IS] 310. **Fresh Meats** (3 cr I) Lec 2, lab 2.

Prereq: ASCI 210 or permission.

Fresh meat from beef, pork, lamb, and poultry. Characteristics of muscle, meat technology, preservation, merchandising concepts, and markets.

311. **Study Tour** (2 cr, max 6 II) Prereq: Permission. Tours will start on Sunday following the Spring Commencement in May with follow-up term paper and/or oral Powerpoint presentation completed prior to the final examination period for the fall semester. Students must contact the instructor by April 1 for early instructions. An additional Special Fee is assessed.

Study tour of livestock and/or meat/food processors. Provide an understanding of the industry's operations and problems.

A. **Equine Industry Study Tour** (2 cr II)

B. **Meat Industry Study Tour** (2 cr II)

C. **Pork Industry Study Tour** (2 cr II)

311E. **Beef Industry Study Tour** (2 cr II) Lec 2.

Prereq: ASCI 281.

Supplements to the class include invited speakers. A summer tour is required. ASCI 311E is 'Letter grade only.'

Identify beef cattle related enterprises that represent the breadth of the cattle industry. Prioritize these enterprises as candidates for inclusion in the summer tour.

[ES] 320. **Animal Nutrition and Feeding** (3 cr I, II) Lec 2, rct/

lab 2.

Prereq: ASCI 240 and 250; CHEM 251.

Fundamentals of nutrition and feeding of domestic livestock,

nutrients and nutrient requirements, characteristics of feed-stuffs, methods of feeding, and the feed industry.

**321. Companion Animal Nutrition** (3 cr II) Lec 3. Prereq: ASCI 320 or equivalent.

Digestive anatomy and physiology of companion animals including dogs, cats, small mammals, and exotic species. Unique nutrient requirements, pet food formulation, and regulations.

**322. Equine Nutrition** (2 cr II) Lec 2. Offered odd-numbered calendar years.

Equine nutrition including digestive anatomy and physiology. Nutritional requirements of horses as related to growth, reproduction, and performance. The relationship of nutrition to disease and environment. Management practices and application of current equine nutritional research.

[ES] **330. Animal Breeding** (4 cr I) Lec 3, lab 2. Prereq: AGRO 315 or BIOS 206; STAT 218 or equivalent.

Principles of animal breeding and their application to livestock improvement. Material includes explanations of genetic variation as a cause of variation in animal performance, characterization of the effects of selection, inbreeding and crossbreeding, and application of these procedures to development of breeding programs to improve efficiency of production.

**341. Physiology and Management of Reproduction** (4 cr I) Lec 2, rct 1, lab 3. Prereq: ASCI 240.

Comparative anatomy and physiology of reproduction in domestic animals. Endocrine regulation of reproductive function, patterns of reproduction, economic consequences of sub-optimal reproductive performance, environmental influences on reproductive efficiency, application of selected techniques for controlling reproduction. Laboratory provides application of techniques used in reproductive management.

**342. Equine Reproduction** (2 cr II) Lec 2. Prereq: ASCI 240 or equivalent. ASCI 341 recommended. Offered even-numbered calendar years.

Anatomy and physiology of stallion and mare reproductive systems. Estrous detection systems, artificial and natural breeding techniques, infertility, semen collection and processing, reproductive management, and record keeping.

**343. Meat Culinology™ III: Foodservice Applications** (NUTR 343) (3 cr II) Lec 3. Prereq: ASCI/NUTR 210 or 213 or 310. For course description, see NUTR 343.

[ES] **351. Biology and Management of Companion Animals** (3 cr I) Prereq: Sophomore standing, BIOS 101 and 101L, ASCI 240, or permission.

Principles of management of dogs and cats. Basic knowledge of dog and cat behavior, breeding, nutrition and health.

**360. Advanced Equitation** (2 cr I) Rct/lab 4. Prereq: Junior standing, ASCI 260 and/or permission. *Lab fee: \$60. Limit per section: 10 students.*

Study and application of maneuvers basic to performance excellence. Assigned student mounts expected to show satisfactory progress toward standards of excellence in Western and English performance.

[ES][IS] **370. Animal Welfare** (3 cr II) Lec 3. Prereq: Junior standing or permission.

In-depth exploration of the issues involved in animal use. The historical, biological, ethical, and social aspects of human/animal interactions in Western culture.

**381. Beef Industry Scholars–Practicum** (1 cr II) Lec 1. Prereq: Acceptance into the Nebraska Beef Industry Scholars (NBIS) program; ASCI 311E. ASCI 381 is 'Letter grade only.' Financial risk management, beef processing, animal health, and related emerging issues.

**395. Experiential Learning for Career Development in Animal Sciences** (1-6 cr, max 12 I, II, III) Prereq: Sophomore standing. *A faculty adviser for the area of interest must be identified prior to registering for the course.*

Extension and application of the animal science curriculum within the context of industry (e.g., internship), extension and service, research, or teaching experience.

A. Industry Experiences (1-6 cr, max 6)

B. Extension and Service Experiences (1-6 cr, max 6)

D. Research Experiences (1-6 cr, max 6)

E. Undergraduate Teaching Experience (1-6 cr, max 6)

**399. Independent Study in Animal Science** (1-5 cr, max 12 I, II, III) Prereq: Permission.

Individual or group projects in research, literature review, or extension of course work under supervision and evaluation of a departmental faculty member.

**400A. Advanced Intercollegiate Livestock and Meats Evaluation and Judging—Advanced Meat Grading and Evaluation** (2 cr I) Lec 2/lab 4. Prereq: ASCI 300A.

Comparative evaluation of the meat characteristics of beef, pork, and lamb that affect product merit and the scientific basis of the factors that influence the relative value. Federal meat grades and their application, industry grading system and their application, and application of Institutional Meat Purchase Specifications. Application of the above topics, as well as critical decision making and written justification of meat product merit, practiced in-depth.

**400B. Advanced Intercollegiate Livestock and Meats Evaluation and Judging—Advanced Livestock Evaluation and Judging** (2 cr I) Lab 6. Prereq: ASCI 300B or equivalent experience. *The University of Nebraska Senior Livestock Judging Team will be selected from students in this course.*

Livestock judging and evaluation applying principles learned in ASCI 300B. Field trips to commercial and purebred livestock operations and exhibitions. Network with producers to learn varied livestock production philosophies. Develop a proficiency in brief, concise oral presentation of reasons for making a decision.

**400E. Advanced Horse Evaluation and Judging** (2 cr I) Lab 4.

Prereq: ASCI 300E or equivalent, recommended. *The University Horse Judging Team is selected from students enrolled in ASCI 400E. Filed trips are a major component of the course.*

Advanced horse judging and analysis. Evaluate conformation and score multiple performance events. The development and presentation of concise oral reasons to defend placing decisions.

[IS] **410. Processed Meats** (3 cr II) Lec 2, lab 3. Prereq: ASCI 210 or permission.

Modern meat processing industry and its use of science and technology. The fabrication, processing, preservation, sanitation, and utilization of manufactured and processed meat. Actual laboratory preparation of processed meats and by-products of the meat packing industry.

**411. HACCP and Food Safety Systems for the Food Industry** (3 cr) Lec 2, rct 1. Prereq: An understanding of food production and processing operations. Recommended: ASCI 310, 410, and FDST 205; or NUTR 343.

Principles, implementation, sanitation, and standard operating procedures that function to support the Hazard Analysis and Critical Control Point (HACCP) System. Food safety hazards and their relationship to food borne illness in the meat and food industry.

**416/816. Veterinary Entomology/Ectoparasitology** (ENTO, NRES, VBMS 416/816) (2 cr II) Lec 2. Prereq: 10 hrs entomology or biological science or related fields or permission.

For course description, see ENTO 416/816.

**416L/816L. Veterinary Entomology/Ectoparasitology Lab** (ENTO, NRES, VBMS 416L/816L) (1 cr II) Prereq: ENTO/ASCI/NRES/VBMS 416/816; or parallel.

For course description, see ENTO 416L/816L.

**418/818. Eggs and Egg Products** (FDST 418/818) (3 cr I) Lec 2, lab 3. Prereq: FDST 205. Offered odd-numbered calendar years. For course description, see FDST 418/818.

**419/819. Meat Investigations** (FDST 419/819) (1-3 cr, max 3 I, II, III) Prereq: ASCI 210 or permission.

Conduct independent research and study meat industry problems in processing, production, storage, and preparation of meat and meat products.

[ES] **421/821. Advanced Animal Nutrition** (3 cr I) Lec 3. Prereq: ASCI 320.

Advanced course dealing with the nutrition of domestic animals. In-depth coverage of nutrients, nutrient metabolism, and nutrient requirements. Biochemical and physiological functions of nutrients in life processes.

**422/822. Advanced Feeding and Feed Formulation** (3 cr II, III) Lec 3. Prereq: ASCI 320 or equivalent. *Graduate students are required to complete an independent analysis of published research in a selected area of nutrition and submit a written paper.*

Advanced current feeding practices for domestic animals. Applied animal nutrition and feed formulation.

[ES] **431/831. Advanced Animal Breeding** (3 cr II) Lec 2, rct 1. Prereq: ASCI 330.

Application of genetic principles to animal breeding. Critical examination of current and potential selection programs and crossbreeding systems. Determination of performance objectives. Expected responses to selection methods and dissemination of improvement in an industry.

**441/841. New Techniques in Reproductive Biology** (3 cr II) Lec 2, lab 2. Prereq: ASCI 341 or equivalent.

Mammalian early embryonic development. Basic aspects of embryology and development biology. Modern technologies in animal reproductive biology, in vitro maturation and fertilization, embryo transfer, cloning, assisted reproductive technologies, transgenic animals, and embryonic stem cells.

[ES] **442/842. Endocrinology** (BIOS 442/842; VBMS 842) (3 cr I) Lec 3. Prereq: A course in vertebrate physiology and/or biochemistry.

Mammalian endocrine glands from the standpoint of their structure, their physiological function in relation to the organism, the chemical nature and mechanisms of action of their secretory products, and the nature of anomalies manifested with their dysfunction.

**450. Horse Management** (3 cr I) Lec 2, lab 2. Prereq: Junior standing and ASCI 100. ASCI 320 and 341 recommended. Light horse production. Nutrition, reproduction, management, housing, and principle usage of light horses.

[IS] **451/851. Livestock Management on Range and Pasture** (AGRO, RNGE 445/845) (3 cr I) Lec 2. Prereq: AGRO 240 or 340 and ASCI 250; AECN 201 recommended.

For course description, see AGRO 445/845.

**452. Poultry Management** (2 cr II) Lec 1, lab 2. Prereq: Senior standing or permission; ASCI 250; AECN 201. ASCI 210, 240, 320 and 330 recommended.

Management of production units specializing in market eggs, hatching eggs, broilers, and turkeys. Housing, equipment, health, nutrition, and marketing of poultry and poultry products. Emphasis on integration of factors involved in efficient and economical production.

**453. Dairy Management** (3 cr I) Lec 2, rct 2. Prereq: Senior standing and ASCI 250, or permission. ASCI 240, 320 and 330 recommended.

Management of a dairy enterprise for efficient production of a quality product. Emphasis on specific problems in breeding, feeding, reproduction, facilities, herd health, and in harvesting and marketing of milk and related economic considerations.

**454. Swine Management** (3 cr I) Lec 1, lab 2. Prereq: ASCI 100. Offered even-numbered calendar years. ASCI 454 is intended for upper-level students with an interest in animal production. Integration and application of factors pertaining to nutrition, physiology, genetics, health, engineering, and economics in the production of pork. Factors affecting profitability of the swine enterprise.

**455. Beef Cow-Calf Management** (2 cr II) Lec 1, rct/lab 2. Prereq: Senior standing or permission; ASCI 250; AECN 201. ASCI 210, 240, 320 and 330 recommended.

Integrated management specific to the beef cow-calf enterprise necessary to achieve biologic and economic efficiency.

**457. Beef Feedlot Management** (2 cr II) Lec 1, rct/lab 2. Prereq: Senior standing or permission; ASCI 250, 320; AECN 201. ASCI 210, 240 recommended.

Advanced preparation in the feeding of cattle for slaughter. Emphasis on the nutrition and management of feedlot cattle and related health and economic considerations. Covers the beef enterprise from weaning to market and relates closely to beef cow-calf production.

**481. Beef Industry Scholars—Beef Summit** (1 cr I) Lec 1. Prereq: Acceptance into the Nebraska Beef Industry Scholars (NBIS) program; ASCI 381. ASCI 481 requires working with the Nebraska Cattlemen and the instructor to develop the summit. ASCI 481 is 'Letter grade only.'

Identification of a major issue confronting the Nebraska beef industry. Organize a Nebraska summit meeting to discuss and bring the identified issue to resolution.

**482. Beef Industry Scholars—National Beef Industry Policy** (1 cr II) Lec 1. Prereq: ASCI 481. ASCI 482 requires attending the Nebraska Cattlemen's Beef Association (NCBA) annual convention and then, communicating the new policy and issues to local organizations and undergraduate student groups. ASCI 482 is

'Letter grade only.'

Discuss and dissect issues from the NCBA convention researching the pros and cons of current and proposed policy.

**[IS] 485. Animal Systems Analysis<sup>1</sup>** (3 cr I, II) Lec 2, rct 2. Prereq: Senior standing; ASCI 250; AECN 201; or permission. ASCI 485 is for majors in the College of Agricultural Sciences and Natural Resources with an interest in careers in livestock production units, the meat industry, or related agribusiness.

Goal setting, information gathering, and application of problem solving methods in animal science. Develops ability to analyze and solve problems in all segments of animal science by integration of information from all pertinent disciplines and sources.

(ACE 10) [IS] **486. Animal Biological Systems<sup>1</sup>** (3 cr I) Lec 2, rct 2. Prereq: ASCI 210, 240 and 320; AGRO 315 or BIOS 305. ASCI \*486 is for seniors with an interest in careers involving animal science disciplines, animal biology, and related fields.

How to integrate information from the animal science disciplines to understanding animals as biological systems. The processes of growth, adaptation, and lactation. Analyzing the interrelationship of each discipline within animal production. Using case studies, scenarios, and problem solving assignments to examine how alterations in nutrition and metabolism, genetic makeup, endocrine profile and/or the environment impact or effect the animal as a whole.

**490. Animal Science Internship** (3 cr, max 6 I, II, III) Fld. Prereq: ACCT 201; AECN 325 and 452; ASCI 420 and 457; and permission.

Management internship in a beef feedlot. Organizational and financial structure of the beef feedlot and experience in making decisions related to: animal production, marketing, business management, and personnel management.

A. **Beef Feedlot Management** (3 cr, max 6 I, II, III)

**491. Animal Science Seminar** (1 cr I, II) Lec/disc 1. Prereq:

Senior standing.

Student-led discussion of selected current topics significant to the livestock, poultry, and meat industry. Concerns and issues of society as they relate to local, national, and international animal agriculture.

**496/896. Independent Study in Animal Science** (1-5 cr, max 12 I, II, III) Prereq: 12 hrs animal science or closely related areas and permission.

Individual or group projects in research, literature review, or extension of course work under the supervision and evaluation of a departmental faculty member.

**499H. Honors Thesis** (3-6 cr, max 6 I, II, III) Prereq: Admission to the University Honors Program and permission; AGRI 299H recommended.

Conduct a scholarly research project and write a University Honors Program or undergraduate thesis.

**806. Animal Science Graduate Seminar** (1 cr per sem, max 2 cr I) Lec/disc 1. Prereq: Graduate student in animal science or permission.

**817. Meat Technology** (4 cr I) Lec 2, lab 6. Prereq: ASCI 410 or permission.

**820. Feedlot Nutrition and Management** (3 cr II) Lec 3. Prereq: CHEM 831. Offered spring semester of odd-numbered calendar years.

**845. Animal Physiology I** (BIOS \*813, VBMS \*845, VMED 645) (4 cr I) Lec 3, lab 3. Prereq: For BIOS \*813/VBMS \*845: an undergraduate course in physiology, BIOC, or BIOL; for VMED 645: First year standing in the Professional Program in Veterinary Medicine. *ASCI/VMBS \*845/BIOS \*813/VMED 645 is designed for students in ASCI or BIOS or VMED.*

**846. Animal Physiology II** (BIOS \*814, VBMS \*846, VMED 646) (4 cr II) Lec 3, lab 3. Prereq: For BIOS \*814/VBMS \*846: an undergraduate course in physiology, BIOC, or BIOL; for VMED 646: First year standing in the Professional Program in Veterinary Medicine. *ASCI/VMBS \*846/BIOS \*814/VMED 646 is designed for students in ASCI or BIOS or VMED.*

**899. Masters Thesis** (1-10 cr I, II, III)

Refer to the Graduate Bulletin for 900-level courses.

## Applied Science

**Coordinator:** Associate Professor Steve Danielson, 211 Entomology

### Bachelor of Science in Applied Science

Applied Science is designed for the intellectually aggressive student seeking a broad education in the agricultural, life, and natural resource sciences combined with essential studies in the natural sciences, leadership, communication skills, humanities and social sciences.

**Program Description:** This degree program will prepare students for occupations that involve the application of science in society, rather than the practice of science and scientific research. The goal is to provide an integrated understanding of how basic and applied science benefit and impact us, from the individual to the biosphere.

The minimum requirements of CASNR reflect the common core of courses that apply to students pursuing degrees in the college. Students should work with an adviser to satisfy ACE outcomes 1, 2, 3, 4, 6, and 10 with the college requirements.

Hours

#### College Integrative Courses.....6

AGRI/NRES 103 Intro to Agricultural & Natural Resource Systems.....3

AGRI 485 Investigations of Applied Science.....3

#### Mathematics and Statistics (*beyond college algebra*)...5

Select from: MATH 102, 104, 106, or STAT 218

**NOTE:** Proficiency at the college algebra level must be demonstrated either by a placement exam or through course work. If MATH 103 is taken, only 2 cr hrs can be counted toward this requirement.

#### Communication.....6

Written Communication.....3

Select from: ENGL 150, 151, 254; JGEN 120, 200, 300

Communication and Interpersonal Skills electives....3

Select from: ENGL 101, 150, 151, 252, 253, 254;

ALEC 102; JGEN 120, 200, 300; COMM 109, 209, 212, 286

#### Natural Sciences.....19-21

CASNR approved life sciences .....4

Select from: BIOS 101 & 101L, or 102, or 103

AGRO 315 Genetics or BIOS 206 General Genetics....4

CHEM 105 or CHEM 109.....4

CHEM 106 or CHEM 110 or FDST 301.....2-4

PHYS 141 (5 cr), PHYS 151 (4 cr), PHYS 211 (4 cr), or

MSYM 109 (4 cr).....4-5

#### Economics, Humanities and Social Sciences.....18

ECON 211 or ECON 212 or AECN 141.....3

ACE Courses.....12

Select one course each from ACE outcomes 5, 7, 8, and 9.

Total Requirements.....54-56

Track Requirements.....72-74

Total Requirements for Graduation.....128

### Integrative Systems Option

A minimum of 30 hours must be completed at the 200 level or above and a minimum of 15 hours must be completed at the 300 level or above.

Hours

#### Food, Animal, and Plant Science Systems.....18

AGRO 131 Plant Science .....3

ENTO/ BIOS 115 Insect Biology .....3

FDST/CHEM/NUTR 131 Science of Food.....3

Select an additional 9 hours from.....9

AGRO 325 Intro to Plant Physiology

AGRO 424 Plant Nutrition & Nutrient Management

AGRO/HORT/NRES 406 Plant Ecophysiology

Theory & Practice

AGRO/HORT/NRES 435 Agroecology

ASCI 240 Anatomy & Physiology of Domestic Animals

BIOS 109 General Botany

BIOS 211 & 211L Intro to Zoology & Lab

ENTO 401 Insect Physiology

FDST/CHEM/NUTR 131 Science of Food

FDST 405 Food Microbiology

FDST 455 Microbiology: Fermented Foods

**Genetics/Biotechnology/Biosecurity.....9**

AGRI 115 Biotechnology: Food, Health, &

Environment .....3

Select an additional 6 hours from:.....6

AGRO/BIOS/HORT 216 Plant Breeding Principles & Practices

AGRO 411 Crop Genetic Engineering

AGRO 412 Crop & Weed Genetics

ASCI 330 Animal Breeding

BIOS 205 Genetics, Molecular, & Cellular Biology

Lab

BIOS 312 Fundamentals of Microbiology

BIOS 425 Plant Biotechnology

ENTO 409 Insect Control by Host-Plant Resistance

PLPT/AGRO/HORT 270 Biological Invaders

**Natural Science and Energy Systems.....15**

ENSC 220 Intro to Energy Systems .....3

NRES 108 Earth's Natural Resource Systems .....3

Select an additional 9 hours from:.....9

AECN 357 Natural Resource & Environmental

Law

AGRO/HORT/SOIL 153 Soil Resources

AGRO/WATS/SOIL/GEOL 361 Soil, Environment & Water Quality

BIOS 454 Ecological Interactions

BIOS 457 Ecosystem Ecology

ENSC 230 Energy & the Environment: Economics & Policy

ENTO 406 Insect Ecology

GEOL 106 Environmental Geology

METR 200 Weather & Climate

NRES 208 Intro to Bio-atmospheric Resources

NRES 211 Intro to Conservation Biology

NRES 220 & 222 Principles of Ecology & Lab

NRES 281 Intro to Water Science

NRES/AGRO/GEOG/METR 452 Climate & Society

**Leadership/Entrepreneurship/Economics.....9**

Select from:

AECN 265 Resources & Environmental Economics

AECN 346 World Food Economics

AECN 420 International Food & Agricultural Trade

ALEC 202 Leadership Development in Small Groups & Teams

ALEC 302 Dynamics of Effective Leadership in Organizations

ALEC 410/NRES 413 Environmental Leadership

ALEC 477 Leadership & Motivation

ENTR 121 Intro to Entrepreneurship Management

ENTR 321 Business Plan Development

ENTR 398 International Study

ENTR 421 Entrepreneurship & Venture Management

HORT 288 Horticulture Entrepreneurship

**Electives.....21-23**

### Agricultural Systems Option

A minimum of 30 hours must be completed at the 200 level or above and a minimum of 15 hours must be completed at the 300 level or above. To meet degree requirements, students must have a course in at least four CASNR departments or program areas.

All students pursuing this option must satisfy requirements for a Minor in CASNR. (Consult your adviser regarding which courses fulfill this requirement.)

**Agricultural Sciences.....51-52**

Production .....12

Must include: Course work in at least two of the following programs: agronomy, animal science, horticulture, mechanized systems management.

<b>Select from:</b>	
AGRO 131 Plant Science	
AGRO 132 Plant Science Lab	
AGRO 204 Resource-Efficient Crop Management	
AGRO 240 Forage Crop & Range Management	
AGRO 269 Principles of Soil Management	
AGRO 366 Soil Nutrient Relationships	
AGRO 405 Crop Management Strategies	
AGRO 431 Site-Specific Crop Management	
AGRO 436 Agroecosystems Analysis	
AGRO 445 (ASCI 451) Livestock Management on Range & Pasture	
ASCI 100 Fundamentals of Animal Biology & Industry	
ASCI 240 Anatomy & Physiology of Domestic Animals	
ASCI 250 Animal Management	
ASCI 300B Principles of Intercollegiate Livestock & Meats Evaluation & Judging—Livestock	
ASCI 300E Principles of Horse Evaluation & Judging	
ASCI 320 Animal Nutrition & Feeding	
ASCI 330 Animal Breeding	
ASCI 341 Physiology & Management of Reproduction	
ASCI 342 Equine Reproduction	
ASCI 351 Biology & Management of Companion Animals	
ASCI 360 Advanced Equitation	
ASCI 450 Horse Management	
ASCI 452 Poultry Management	
ASCI 453 Dairy Management	
ASCI 454 Swine Management	
ASCI 455 Beef Cow-Calf Management	
ASCI 457 Beef Feedlot Management	
ASCI 485 Animal Systems Analysis	
ENTO 109 Beekeeping	
NRES 310 Intro to Forest Management	
HORT 130 Intro to Horticulture Science	
HORT 221 Plant Propagation	
HORT 260 Cut Flowers, Perennials, Potting & Bedding Plant Production	
HORT 325 Greenhouse Practices & Management	
HORT 327 Intro to the Science of Turf Management	
HORT 350 Basic Fruit Production	
HORT 362 Nursery Crop Production Management	
MSYM 232 Equipment Principles	
MSYM 245 Electrical Service Systems	
MSYM 312 Engine Power Systems	
MSYM 354 Soil Conservation & Watershed Management	
MSYM 431 Site-Specific Crop Management	
MSYM 452 Irrigation Systems Management	
TLMT 227 Intro to Turfgrass Management	
TLMT 228 Intro to Landscape Management	
Commodity Protection.....	5-6
<b>Select from:</b>	
AGRO 426 Invasive Plants	
ASCI 370 Animal Welfare	
ASCI 411 HACCP & Food Safety	
ENTO 115 Insect Biology	
ENTO 116 Insect Identification	
ENTO 303 Horticultural Insects	
ENTO 308 Management of Field Crop Insects	
ENTO 409 Insect Control by Host-Plant Resistance	
FDST 372 Food Safety & Sanitation	
FDST 403 Food Quality Assurance	
FDST 405 Food Microbiology	
FDST 406 Food Microbiology Lab	
FDST 425 Food Toxicology	
MSYM 364 Agricultural Products Processing & Handling	
NRES 348 Wildlife Damage Management	
PLPT 270 Biological Invaders	
PLPT 369 Intro to Plant Pathology	
VBMS 303 Principles & Prevention of Livestock Diseases	
VBMS 441 Pathogenic Microbiology	
Utilization .....	6
<b>Select from:</b>	
AGRO 437 Animal, Food, & Industrial Uses of Grain	
AGRO 438 Producing Grain for Animal, Food, & Industrial Uses	
ASCI 200 Animal & Carcass Evaluation	
ASCI 210 Animal Products	
ASCI 211 Meat Technology Lab	
ASCI 300A Principles of Intercollegiate Livestock & Meats Evaluation & Judging—Meat	
ASCI 300B Principles of Intercollegiate Livestock & Meats Evaluation & Judging—Livestock	

ASCI 300D Principles of Intercollegiate Livestock & Meats Evaluation & Judging—Meat Animal	
ASCI 310 Fresh Meats	
ASCI 351 Biology & Management of Companion Animals	
ASCI 410 Processed Meats	
ENSC 220 Intro to Energy Systems	
ENSC 230 Energy & the Environment: Economics & Policy	
FDST 101 Introductory Food Science	
FDST 203 Food Composition	
FDST 412 Cereal Technology	
FDST/ASCI 418 Eggs & Egg Products	
FDST 429 Dairy Products Technology	
FDST 455 Microbiology of Fermented Foods	
HORT 170 Residential Landscape Design	
HORT 200 Landscape & Environmental Appreciation	
HORT 261 Floral Design I	
HORT 262 Floral Design II	
HORT 266 Intro to Landscape Design	
HORT 467 Planting Design	
HORT 469 Senior Landscape Design	
Economics and Management .....	12
<i>Must include: 9 hours in agricultural economics.</i>	
<b>Select from:</b> all AECN courses except AECN 141 and AECN 388; MSYM 462; NRES 423	
Natural Resource Systems .....	10
<b>Select from:</b>	
AGRO 242 North American Wildland Plants	
AGRO 340 Range Management & Improvement	
AGRO 361 Soils, Environment, & Water Quality	
AGRO 440 Great Plains Ecosystem	
AGRO 442 Wildland Plants	
AGRO 444 Vegetation Analysis	
AGRO 445/ASCI 451 Livestock Management on Range & Pasture	
AGRO 475 Water Quality Strategy	
AGRO 477 Great Plains Field Pedology	
BIOS 207 Ecology & Evolution	
ENTO 300 Toxins in the Environment	
HORT/NRES 212 Landscape Plants I	
HORT/NRES 213 Landscape Plants II	
NRES/AGRO/GEOG/HORT 408/BIOS 457	
Microclimate: The Biological Environment	
HORT/AGRO 425 Turfgrass Science & Culture	
MSYM 354 Soil Conservation & Watershed Management	
NRES 208 Intro to Bio-Atmospheric Resources	
NRES 211 Intro to Conservation Biology	
NRES 220 Principles of Ecology	
NRES 311 Wildlife Ecology & Management	
NRES 323 Natural Resources Policy	
NRES 424 Forest Ecology	
NRES 433 Wildlife Management Techniques	
SOIL/AGRO 153 Soil Resources	
WATS 354 Soil Conservation & Watershed Management	
Leadership and Entrepreneurship.....	6
<b>Select from:</b>	
ENTR 121 Entrepreneurial Management	
ENTR 321 Business Plan Development	
ENTR 398 International Study	
ENTR 421 Entrepreneurship & Venture Management	
ENTR 102 Interpersonal Skills for Leadership	
ALEC 202 Leadership Development in Small Groups & Teams	
ALEC 302 Dynamics of Effective Leadership in Organizations	
ALEC 410/NRES 413 Environmental Leadership	
ALEC 477 Leadership & Motivation	
HORT 288 Horticulture Entrepreneurship	
Free Electives .....	21-22

## Biological Chemistry

**Director:** Professor Paul Black, N200 Beadle Center  
**Professors:** DiRusso, Lou, Markwell, Nickerson, Parkhurst, Spreitzer, Staswick, Weeks, Wood  
**Associate Professors:** Barycki, Becker, Cahoon, Griepp, Miner, Sarah, Simpson, Stone, Zempleni  
**Assistant Professors:** Bailey, Bassett, Fomenko, Lee, Somerville, Wilson  
**Professor of Practice:** Madhavan  
**Coordinator for Undergraduate Research:** Madhavan

The Center for Biological Chemistry offers studies leading to a bachelor of science (BS) degree. The training offered is suitable for a professional career in biochemistry which may lead to employment in various industries involved in the manufacture or processing of chemicals, foods, feeds, toiletries, and pharmaceuticals; or federal agencies such as the Food and Drug Administration, US Department of Agriculture, US Public Health Service, and Environmental Protection Agency. The program is also suitable as preparation for graduate studies leading to academic careers in biochemistry and for professional careers in medicine, dentistry, veterinary medicine and health-related fields.

**Pass/No Pass.** Students in biochemistry may not take any of the courses required for the biochemistry degree program Pass/No Pass except for courses involving independent study, research, and seminars.

## Requirements

Students concerned about their preparation for college-level biology should take BIOS 101 and 101L prior to BIOS 102. Please consult your adviser if in doubt.

Within the same subject matter area, students may request a more advanced course be substituted for a required course.

	Hours
<b>Agricultural Sciences.....</b>	15
AGRI/NRES 103 Intro to Agricultural & Natural Resource Systems .....	3
BIOC 101 Career Opportunities in Biochemistry.....	1
BIOC 431 Biomolecules & Metabolism .....	4
BIOC 432 Gene Expression & Replication .....	2
BIOC 433 Biochemistry Lab.....	2
BIOC 435 Advanced Topics in Biochemistry <sup>1</sup> .....	3
<b>Natural Sciences.....</b>	43-47
BIOS 102 Cell Structure & Function.....	4
BIOS 206 General Genetics or AGRO 315 Genetics.....	4
BIOS 312 Fundamentals of Microbiology .....	3
BIOS 313 Microbiology A Lab (2 cr) or BIOS 314 Microbiology B Lab (1 cr) .....	1-2
CHEM 109 General Chemistry I.....	4
CHEM 110 General Chemistry II.....	4
CHEM 221 Elementary Quantitative Analysis.....	4
or CHEM 113 Fundamental Chemistry I (4 cr), CHEM 114 Fundamental Chemistry II (3 cr), CHEM 116 Quantitative Chemistry Lab (2 cr)	
CHEM 251 & 253 or CHEM 261 & 263 Organic Chemistry .....	4
CHEM 252 & 254 or CHEM 262 & 264 Organic Chemistry .....	4
CHEM 471 or CHEM 481 Physical Chemistry.....	4
PHYS/ASTR 141 Elementary General Physics .....	5
PHYS/ASTR 142 Elementary General Physics .....	5
or PHYS/ASTR 211 General Physics I (4 cr), PHYS/ASTR 212 General Physics II (4 cr), PHYS/ASTR 221 General Physics Lab I (1 cr), PHYS/ASTR 222 General Physics Lab II (1 cr)	
<b>Mathematics and Statistics.....</b>	10-15
MATH 101 Algebra.....	3
MATH 102 Trigonometry .....	2
or MATH 103 Algebra & Trigonometry (5 cr)	
or equivalent preparation	
MATH 106 Analytic Geometry & Calculus I.....	5
MATH 107 Analytic Geometry & Calculus II .....	5
<b>Communications.....</b>	9
Written Communication.....	3
Select from: ENGL 150, 151, 254; JGEN 120, 200 or 300	
Oral Communication .....	3
Select from: COMM 109, 209, or 286	
Communication and Interpersonal Skills elective.....	3
Select from: ENGL 101, 150, 151, 252, 253, 254; ALEC 102; JGEN 120, 200, 300; COMM 109, 209, 212 or 286	

<b>Economics</b> .....	<b>3</b>
ECON 211 or 212 or AECN 141 (3 cr)	
<b>Humanities and Social Sciences</b> .....	<b>12</b>
Select one course each from ACE outcomes 5, 7, 8, and 9 as <i>Humanities &amp; Social Sciences electives</i> .	
<b>Free Electives</b> .....	<b>30</b>
<b>Minimum Requirements for Graduation</b> .....	<b>128</b>

## Biochemistry Minor

• A minimum of 18 credit hours of course work to include the following courses:	
	<b>Hours</b>
BIOC 431 Biomolecules & Metabolism .....	4
BIOC 432 Gene Expression & Replication .....	2
BIOS 206 General Genetics <b>or</b> AGRO 315 Genetics.....	4
BIOS 312 Fundamentals of Microbiology .....	3
BIOS 313 Microbiology Lab (2 cr) <b>or</b> BIOS 314 Microbiology Lab (1 cr) .....	1-2
CHEM 252 Organic Chemistry <b>or</b> CHEM 262 Organic Chemistry .....	3
CHEM 254 Organic Chemistry Lab (1 cr) <b>or</b> CHEM 264 Organic Chemistry Lab (2 cr) .....	1-2

**Program Assessment.** In order to assist the department in evaluating the effectiveness of its programs, students will be required in their senior year to participate in an exit interview. The interview will be conducted in the context of the BIOC 432 course.

Results of participation in this assessment activity will in no way affect a student's GPA or graduation.

**Laboratory Fee and Deposit.** Students who enroll in laboratory courses in the Center for Biological Chemistry may be required to pay a small non-refundable cash fee to defray the cost of materials consumed in the course and a deposit to cover the cost of replacing or repairing equipment the student may damage in the laboratory.

**Graduate Work.** Advanced degrees of master of science and doctor of philosophy are available. For details, consult the Graduate Studies Bulletin.

## Courses of Instruction (BIOC)

**101. Career Opportunities in Biochemistry** (1 cr I) Lec 1. Prereq: Interest in becoming a biochemistry major. Introduction to the field of biochemistry and faculty research interests in the Center for Biochemistry. Exploration of careers in biochemistry.

**321. Elements of Biochemistry** (3 cr) Lec 3. Prereq: CHEM 251; BIOS 101 and 101L, or 104H. BIOC 321 will not count for biochemistry majors. Structure and function of proteins, carbohydrates, lipids and nucleic acids; enzymes; principal metabolic pathways; and biochemical expression of genetic information.

**321L. Laboratory for Elements of Biochemistry** (1 cr) Lab. Prereq: Parallel BIOC 321.

**431/831. Biomolecules and Metabolism** (CHEM, BIOS 431/831) (4 cr I, II) Lec 4. Prereq: CHEM 252 or 262, BIOS 102 recommended. *First course of a two-semester, comprehensive biochemistry course sequence.*

Structure and function of proteins, nucleic acids, carbohydrates and lipids; nature of enzymes; major metabolic pathways; and biochemical energy production.

**432/832. Gene Expression and Replication** (CHEM, BIOS 432/832) (2 cr I, II) Lec 2. Prereq: BIOC 431/831. Continuation of BIOC 431/831. Structural and biochemical aspects of DNA replication and gene expression, and biotechnology.

**433/833. Biochemistry Laboratory** (BIOS, CHEM 433/833) (2 cr I, II) Lec 1, lab 4. Prereq: BIOC 431/831 or concurrent enrollment. Introduction to techniques used in biochemical and biotechnology research, including measurement of pH, spectroscopy, analysis of enzymes, chromatography, fractionation of macromolecules, electrophoresis, and centrifugation.

**434/834. Plant Biochemistry** (AGRO, BIOS, CHEM 434/834) (3 cr, II) Lec 3. Prereq: BIOC/BIOS/CHEM 431/831. *Offered every other year beginning spring 2007.* Biochemical metabolism unique to plants. Relationships of topics previously acquired in general biochemistry to biochemical processes unique to plants. Biochemical mechanisms behind physiological processes discussed in plant or crop physiology.

(ACE 10) [IS] **435. Advanced Topics in Biochemistry** <sup>1</sup> (3 cr I, II) Lec 3. Prereq: BIOC/BIOS/CHEM 432. *Open to biochemistry majors only.* Application of general biochemistry knowledge to current topics in the life sciences; literature research and seminar.

**437/837. Research Techniques in Biochemistry** (BIOS 437/837) (4 cr II) Lec 1, lab 9. Prereq: CHEM 116 or 221 and BIOC/BIOS/CHEM 433/833. *BIOC 437/837 is for advanced undergraduate and beginning graduate students who plan a career in laboratory work within the life sciences.*

Practical applications of biochemical methodology to studies in the life sciences. Practical experience with quantitation by spectrophotometry and spectroflurometry, chromatographic and electrophoretic fractionation of proteins and nucleic acids, detection of biomolecules by immunological and DNA hybridization techniques, and analysis of data with a microcomputer.

[IS] **486/886. Advanced Topics in Biophysical Chemistry** (CHEM, BIOS 486/886) (3 cr II) Lec 3. Prereq: CHEM 471/871 or 481/881.

Applications of thermodynamics to biochemical phenomena, optical properties of proteins and polynucleotides, and kinetics of rapid reactions.

**498. Undergraduate Research** (1-6 cr, max 6 I, II, III) Ind. Prereq: Permission.

Research on a specific biochemical project under the supervision of a biochemistry faculty member.

**499H. Honors Thesis** (1-6 cr, max 6 I, II, III) Prereq: Admission to the University Honors Program and permission; AGRI 299H recommended.

Conduct a scholarly research project and write a University Honors Program or undergraduate thesis.

**\*810. Plant Molecular Biology** (AGRO, BIOS, HORT \*810) (3 cr II) Lec 3. Prereq: AGRO 315 or BIOS 206; BIOC 831 or permission.

**\*818. Agricultural Biochemistry** (AGRO 818) (2 cr) Prereq: Undergraduate degree with a major related to the life sciences and a course in biochemistry.

**836. Biophysical Chemistry** (CHEM 436/836) (3 cr II) Lec 3. Prereq: One semester of physical chemistry.

**\*839. Graduate Survey of Biochemistry** (CHEM, BIOS \*839) (4 cr I) Prereq: Graduate standing in biochemistry, chemistry, or biological sciences or permission.

**\*848. Redox Biochemistry** (CHEM \*848) (3 cr) Prereq: 3 hrs BIOC.

**\*869. Chemistry for Secondary School Classrooms** (CHEM, TEAC \*869; BIOS 883) (1 cr, max 12) *This course cannot be taken for graduate credit in chemistry or biochemistry.*

**898. Research in Biochemistry** (BIOS 898) (1-3 cr I, II, III) Prereq: BIOC 433/833 and permission.

**899. Masters Thesis** (BIOS 899) (6-10 cr I, II, III)

*Refer to the Graduate Bulletin for 900-level courses.*

## Entomology

**Head:** Professor Gary Brewer, Department of Entomology 202 Entomology

**Professors:** Baxendale, Ellis, Foster, Hein, Higley, Kamble, Meinke, Ratcliffe, Siegfried, Wright

**Associate Professors:** Danielson, Heng-Moss, Hunt, Taylor

**Assistant Professors:** Berkebile, Carter, Cortinas

**Associate Professor of Practice:** Weissling

**Coordinator for Undergraduate Research:** Heng-Moss

The entomology department is home of the **Applied Science, Insect Science, and Forensic Science** degree programs.

## Courses of Instruction (ENTO)

[ES][IS] **108. Insects, Science and Society** (3 cr I) Lec 3. ENTO/BIOS 116 may be taken as an optional 1 cr hour lab.

Non-technical introduction to insect biology. Impact of insects on human culture and history, topical issues, pesticides and the environment, new pests and diseases, and threats to ecosystems. Using insects as a focus, addressing the broader themes of biological diversity, evolution, biology and history, the nature of scientific inquiry, and conflicts of science, technology, and society.

**109. Beekeeping** (2 cr II) Lec 2.

Life history and habits of the honeybee; methods of management; honey and wax production; apiary equipment; pollination; identity and control of bee diseases.

(ACE 4) [ES] **115. Insect Biology** (BIOS 115) (3 cr I, II) Lec 2.

ENTO/BIOS 116 may be taken as an optional 1 cr hour lab. Fundamental insect biology (anatomy, development, physiology, behavior, ecology and diversity). Economic and medical importance of insects and principles of insect pest management.

[ES] **116. Insect Identification** (BIOS 116) (1 cr I, II) Lab 1.

Identification of representative orders and families of insects by their anatomy, metamorphosis, habits and habitats. Sight recognition emphasized but dichotomous keys also used. Interrelation of insect and habitats stressed.

**160. Current Topics in Plant Protection I** (PLPT, AGRO, HORT 160) (1 cr) Lec 1.

For course description, see PLPT 160.

**260. Current Topics in Plant Protection II** (PLPT, AGRO 260, HORT 159) (1 cr II) Lec 1. Prereq: Sophomore standing.

For course description, see PLPT 260.

**300. Toxins in the Environment** (BIOS, NRES 300) (2 cr II) Lec 2. Prereq: One semester BIOS and one semester CHEM. *Offered spring semester of even-numbered calendar years.*

Introduction to the principles of toxicology as they apply to environmental contaminants, agrochemicals, industrial, and naturally occurring chemicals.

**303. Horticultural Insects** (3 cr I) Lec 2, lab 2. Prereq: BIOS 101 and 101L, or ENTO 115 or permission. ENTO 116 recommended. *Credit towards the degree cannot be earned in both ENTO 303 and ENTO 403/803.*

Biology and management of insects and other arthropods injurious and beneficial to horticulture.

**308. Management of Field Crop Insects** (3 cr II) Prereq: BIOS 101 and 101L or permission; ENTO 115 recommended. *Offered spring semester.*

Injurious and beneficial insects and pest management practices associated with field crop insects and mites.

**309. Career Experience** (1-3 cr, max 4 cr III) Prereq: Junior standing; introductory courses in entomology; and permission prior to enrolling. *Pass/No Pass only. Course must be concluded with preparation of a written report. Offered first five-week summer session.*

Career experience in applied practices is provided via employment with an entomology-related agency, business or industry, research, extension, or teaching activity.

**390. Current Topics in Plant Protection III** (PLPT, AGRO, HORT 390) (1 cr, max 2 II) Lec 1. Prereq: Junior standing. For course description, see PLPT 390.

**395. Experiential Learning for Career Development in Insect Science** (1-5 cr, max 5 I, II, III) Lfd. Prereq: Sophomore standing. A faculty adviser for the area of interest must be identified prior to registering for the course.

Application and integration of the Insect Science curriculum within the context of extension and service, research, or teaching experience.

- A. Research Experience (1-5 cr, max 5)
- B. Teaching Experience (1-5 cr, max 5)
- C. Extension Experience (1-5 cr, max 5)

**400/800. Biology and Classification of Insects** (4 cr I) Lec 3, lab 3. Prereq: ENTO 115 or graduate standing. Offered fall semester of even-numbered calendar years.

Biology and ecology of common families of insects. Sight recognition of 22 Orders and 105 Families, identification of other families with keys. Student project at species level.

**401/801. Insect Physiology** (4 cr I) Lec 2, lab arr. Prereq: CHEM 251; 12 hrs entomology or biological sciences (zoology). Offered fall semester of odd-numbered calendar years.

Functions and other phenomena associated with the major organ systems of insects; the cuticle, nervous, circulatory, digestive, metabolism, nutrition, locomotion, reproduction, respiration, and growth and development.

**402/802. Aquatic Insects** (NRES 402/802; BIOS 485/885) (2 cr I) Lec 2. Prereq: 12 hrs biological sciences or permission. Offered fall semester of odd-numbered calendar years.

Biology and ecology of aquatic insects.

**402L/802L. Identification of Aquatic Insects** (NRES 402L/802L; BIOS 485L/885L) (1 cr I) Lab 1. Prereq: Parallel ENTO/NRES 402/802/BIOS 485/885.

Identification of aquatic insects to the family level.

**403/803. Management of Horticultural Crop Insects** (3 cr II)

Prereq: Introductory biology course or permission. Offered spring semester. Credit towards the degree cannot be earned in both ENTO 303 and ENTO 403/803.

The biology, ecology and management of insect pests of horticultural crops such as vegetables, fruit trees, trees and shrubs, greenhouse crops, turf and ornamentals. Employing Integrated Pest Management (IPM) strategies to maintain pests below damaging levels while minimizing the use of traditional insecticides.

**404/804. Comparative Insect Anatomy and Histology** (4 cr II) Lec 2, lab 4. Prereq: 12 hrs entomology and/or biological sciences (zoology) or permission. Offered spring semester of odd-numbered calendar years.

Analysis and comparison of macro- and microanatomical features of major insect groups presented as the basis for understanding insect development, variation, homologies of structure, and synthesis of theories of evolution.

**406/806. Insect Ecology** (BIOS 406/806) (3 cr II) Lec 3. Prereq: BIOS/NRES 220 and 222. ENTO 406/806 is offered spring semester of odd numbered calendar years. ENTO 406/806 is also offered on the Internet via the World Wide Web (WWW) in the spring semester of odd-numbered calendar years.

Biotic and abiotic factors as they influence insect development, behavior, distribution, and abundance.

**407/807. Urban and Industrial Entomology** (3 cr I) Lec 3.

Prereq: BIOS 101 and 101L or permission; ENTO 115 recommended. Offered fall semester.

Insects and selected vertebrate pests that infest homes, hospitals and health facilities, museums, restaurants, grain mills, food processing plants and warehouses and their management.

**409/809. Insect Control by Host-Plant Resistance** (2 cr II) Lec 2. Prereq: 12 hrs agricultural sciences and/or biological sciences including one course in entomology and one course in genetics. AGRO 481/881 desirable but not required. Offered spring semester of odd-numbered calendar years.

Nature and mechanisms of plant resistance to insect attack and the utilization of resistance for insect control.

**410/810. Insects as Educational Tools for the Classroom** (3 cr I) Lec, lab. Prereq: Introductory entomology course or permission. Offered fall semester.

Overview of insects. Insect diversity, insect structure and function, insect ecology and behavior, and the beneficial and

detrimental roles insects play. Integrating the study of insects into the classroom to enhance science education.

**411/811. Field Entomology** (BIOS 482/882) (4 cr) Prereq: 12 hrs biological sciences. Offered summers only at Cedar Point Biological Station.

Field course in insect taxonomy and biology emphasizing field collection, specimen preparation, classification, and insect natural history.

**412/812. Entomology and Pest Management** (3 cr II) Lec. Prereq: Introductory course in ENTO.

Principles and practices of managing insect pests. Pest management theory, use of sampling, evaluation and tactics, types of insect pests, and current issues.

**414/814. Forensic Entomology** (FORS 414/814) (3 cr II) Lec 3. Prereq: Introductory course in ENTO.

Application of entomology to legal issues. Criminal investigations, insects of forensic importance, insect succession on carrion, and case studies.

**415/815. Medical Entomology** (3 cr I) Lec. Prereq: Introductory course in ENTO.

Direct and indirect importance of insects in human medicine. Principles of arthropod-borne disease, medically important arthropod groups, and arthropod-transmitted diseases.

**416/816. Veterinary Entomology/Ectoparasitology** (ASCI, NRES, VBMS 416/816) (2 cr II) Lec 2. Prereq: 10 hrs entomology or biological science or related fields or permission.

Arthropods that cause or vector diseases in animals. Arthropod recognition and biology, and disease epidemiology.

**416L/816L. Veterinary Entomology/Ectoparasitology Lab** (ASCI, NRES, VBMS 416L/816L) (1 cr II) Prereq: ENTO/ASCI/NRES/VBMS 416/816; or parallel.

**(ACE 10) 485. Current Issues in Entomology** (3 cr II) Lec. Prereq: Senior standing; completion of ENTO core requirements.

Fulfills the capstone requirement for the insect science major. The application and integration of biological principles of the insect science program.

**495. Grasslands Seminar** (AGRO, GRAS, HORT, NRES, RNGE, SOIL 495) (1-2 cr, max 4 cr I) Prereq: Junior standing. For course description, see GRAS 495.

**496/896. Independent Study in Entomology** (1-6 cr, max 12 I, II, III) Prereq: 12 hrs biological sciences and/or agricultural sciences. Independent study contracts for ENTO 496/896 must be filed with the department.

Individual or group projects in research, literature review, or extension of course work.

**499H. Honors Thesis** (3-6 cr, max 6 I, II, III) Prereq: Admission to the University Honors Program and permission, AGRI 299H recommended.

Conduct a scholarly research project and write a University Honors Program or undergraduate thesis.

**813. Biological Control of Pests** (3 cr II) Prereq: 12 hours BIOS and/or agricultural sciences. Offered spring semester of even-numbered calendar years.

**817. Pest Management Systems** (3 cr I) Lec 3. Prereq: 10 hours of entomology and crop production courses or permission. Offered fall semester of odd-numbered calendar years.

**818. Insect Identification and Natural History** (4 cr III) Lec 3. Prereq: An introductory course in entomology. Credit toward the degree cannot be earned in both ENTO 800 and 818.

**819. Insect Behavior** (3 cr III) Prereq: An introductory course in entomology. Offered in the Summer Session of even-numbered calendar years.

**\*820. Insect Toxicology** (3 cr II) Lec 2. Prereq: 12 hrs BIOS or 4 hrs organic chemistry. Offered spring semester odd-numbered calendar years.

**865. Insect Transmission of Plant Diseases** (BIOS 865) (2 cr II) Lec 2. Prereq: 8 hrs biological sciences including BIOS 464A/864A preceding or parallel and 6 hours entomology or biological sciences (zoology). Offered spring semester of even-numbered calendar years.

**888. MS Degree Project** (4 cr I, II, III) Prereq: Completion of 24 hrs toward the MS degree. Application of graduate course work for the non-thesis MS degree program.

**899. Masters Thesis** (6-10 cr I, II, III)

Refer to Department of Entomology's Web site for distance course information.

Refer to the Graduate Bulletin for 900-level courses.

## Environmental Restoration Science

**Coordinator:** Professor Steve Comfort, School of Natural Resources, 256 Keim Hall

**Environmental Restoration Science Curriculum**

**Committee:** Holz, Kuzila, McCallister, Mamo, Siegfried, Snow

Environmental restoration initiates or accelerates the recovery of an ecosystem that has been degraded, damaged or contaminated from human activity or natural agents. Environmental restoration begins with a thorough understanding of the soil-water environment. Students interested in Environmental Restoration Science must declare an option and can choose between either the Soil Science Option or Lake and Stream Restoration Option.

## Requirements

	Hours
<b>Natural Resources Core</b> .....	22
NRRES/AGRI 103 Intro to Agricultural & Natural Resource Systems .....	3
NRRES 220 Principles of Ecology .....	3
NRRES 265 Natural Resource & Environmental Economics .....	3
NRRES 312 Intro to Geospatial Information Sciences .....	3
NRRES 323 Natural Resources Policy .....	3
SOIL 153 Soil Resources .....	4
SOIL 475 Water Quality Strategy or NRRES 423	
Integrated Natural Resource Management or	
SOIL 498 Senior Project (capstone course) .....	3
<b>Natural Sciences</b> .....	20-21
BIOS 101 & 101L General Biology & Lab or AGRO 131 & 132 Plant Science & Lab or BIOS 102 Cell Structure & Function .....	4
CASNR approved life sciences (other than BIOS 220) .....	4
CHEM 109 General Chemistry I .....	4
CHEM 110 General Chemistry II .....	4
PHYS 141 General Physics (5 cr) or PHYS 151	
Elements of Physics (4 cr) or PHYS 211 General Physics (4 cr) or MSYM 109 Physical Principles of Agriculture (4 cr) .....	4-5
<b>Mathematics and Statistics</b> .....	5
MATH 102 or 103 (Only 2 credit hours apply to requirement) 104, 106 .....	2-5
STAT 218 Intro to Statistics .....	3
<b>Communications</b> .....	9
Written Communication .....	3
Select from: ENGL 150, 151, 254; JGEN 200, 300	
Oral Communication .....	3
Select from: COMM 109, 209, 286	
Communications and Interpersonal Skills Electives .....	3
Select from: ALEC 102; COMM 109, 209, 212, 286; ENGL 101, 150, 151, 252, 253, 254; JGEN 120, 200, 300	
3	
<b>Economics, Humanities and Social Sciences</b> .....	18
ECON 211 or 212 or AECN 141 .....	3
ACE Courses .....	12
Select one course each from ACE outcomes 5, 7, 8, and 9.	
Select one elective in this area .....	3
<b>Requirements</b> .....	31-33
NREE 357 Natural Resource & Environmental Law ..	3
WATS 281 Intro to Water Science .....	3

WATS 354 Soil Conservation & Watershed Management.....	3
WATS 361 Soils, Environment & Water Quality .....	3
NRES 300 Toxins in the Environment .....	2
CIVE 353 Hydrology .....	3
NRES 459 Limnology.....	4
NRES 279 Soil Evaluation .....	1
GEOL 418 Chemistry of Natural Waters .....	3
Select one from the following list: .....	3
NRES 208 Intro to Bio-atmospheric Resources (3 cr)	
METR 200 Weather & Climate (4 cr)	
Select one from the following list: .....	3-4
NRES 108 Earth's Natural Resource Systems Lab (3 cr)	
GEOL 106 Environmental Geology (3 cr)	
GEOL 101 Physical Geology (4 cr)	
<b>Subtotal.....</b>	<b>105-111</b>
<b>Option Electives and Requirements.....</b>	<b>17-23</b>
<b>Free Electives .....</b>	<b>0</b>
<b>Requirements for Graduation.....</b>	<b>128</b>

### Soil Science Option

This option provides students an understanding of soil as a natural resource and as a component of all terrestrial ecosystems. The student will learn how soils influence ecological processes which take place above and below ground. An understanding of these processes will enable the student to deal with environmental management problems such as groundwater protection, natural resource management, urban and rural development issues, waste management, and pollution abatement. Careers focus on environmental assessment, soil conservation, and remediation of soil contamination. Students interested in preparing for graduate work in soils can aim toward a variety of special areas including soil microbiology, fertility, chemistry, physics, mineralogy, and morphology.

Hours

<b>Soil Science Option Requirements .....</b>	<b>13-14</b>
Select from: .....	3
SOIL 460 Soil Microbiology (3 cr)	
SOIL 461 Soil Physics (3 cr)	
CIVE/BSEN 326 Intro to Environmental Engineering (3 cr)	
Select from: .....	3
NRES 451 Soil Environmental Chemistry (3 cr)	
NRES 455 Soil Chemistry & Mineralogy (3 cr)	
NRES/SOIL 477 Great Plains Field Pedology.....	4
Select from: .....	3-4
SOIL 366 Soil Nutrient Relationships (4 cr)	
SOIL 269 Soil Management (3 cr)	

### Other Soil Science Option Electives (3-10 cr)

<u>Biological Systems Engineering Courses</u>	
BSEN/CIVE 455 Non-Point Source Pollution Control Engineering (3 cr)*	
<u>Chemistry Courses</u>	
Chem 251/253(L) Organic Chemistry (4 cr)	
<u>Civil Engineering Courses</u>	
CIVE/BSEN 327 Environmental Engineering Lab (1 cr)*	
CIVE 421 Hazardous Waste Management & Treatment (3 cr)*	
CIVE/BSEN 422 Pollution Prevention: Principles & Practices (3 cr)*	
CIVE 424 Solid Waste Management Engineering (3 cr)*	
CIVE 432 Bioremediation of Hazardous Wastes (3 cr)*	
<u>Geology Courses</u>	
GEOL 488 Groundwater Geology (3 cr)	
GEOL 470 Field Techniques in Hydrogeology (3 cr)	
<u>Natural Resource Courses</u>	
NRES 279 Soil Evaluation (1 cr) <i>This course can be taken more than once.</i>	
NRES 412 Intro to Geographic Information (4 cr)	
NRES 418 Intro to Remote Sensing (4 cr)	
NRES 451 Soil Environmental Chemistry (3 cr)	
NRES 455 Soil Chemistry & Mineralogy (3 cr)	
NRES 497 Career Experiences (1 cr)	

<u>Plant Pathology Courses</u>	
PLPT 270 Biological Invaders (3 cr)	
PLPT 370 Biology of Fungi (3 cr)	
<u>Soil Courses</u>	
SOIL 366 Soil Nutrient Relationships (IS course) (4 cr)	
SOIL 269 Soil Management (3 cr)	

\* Engineering courses are recommended however because of prerequisites, students wishing to enroll in these courses should first seek counsel from their adviser and then request permission from instructor.

And/or any optional courses listed but not taken under the Natural Resources Core Courses, Environmental Restoration Science Courses, or Option Requirements headings in this program

### Lake and Stream Restoration Option

This option is designed for students considering careers in water quality, aquatic ecology, or limnology. The student will learn the important biotic, physical and chemical processes that occur within lakes and streams and be prepared to environmentally manage problems related to water quality. Students will also be prepared to implement pollution abatement procedures or management practices associated with lake and stream restoration. Careers focus on environmental assessment, water conservation, remediation of lakes and streams. Completion of this program also provides excellent preparation for graduate study.

<b>Lake &amp; Stream Restoration Option Requirements.....</b>	<b>14</b>
BIOS 109 General Botany.....	4
BIOS 112 and 112L Intro to Zoology/Lab.....	4
NRES 470 Lake and Reservoir Restoration .....	3
NRES 496 Stream and River Ecology .....	3

### Other Lake and Stream Restoration Option Electives (3-9 cr)

<u>Biological Sciences Courses</u>	
BIOS 381 Invertebrate Zoology (4 cr)	
BIOS 454 Ecological Interactions (4 cr)	
BIOS 457 Ecosystem Ecology (4 cr)	
BIOS 473 Freshwater Algae (4 cr)	
BIOS 488 Natural History of the Invertebrates (4 cr)	
<u>Biological Systems Engineering Courses</u>	
BSEN/CIVE 422 Pollution Prevention (3 cr)*	
BSEN/CIVE 455 Non-Point Source Pollution Control Engineering (3 cr)*	
<u>Entomology Courses</u>	
ENTO 402/402L Aquatic Insects/Lab (3 cr)	
<u>Chemistry Courses</u>	
CHEM 251/253(L) Organic Chemistry (4 cr)	
<u>Natural Resources Courses</u>	
NRES 211 Wildlife Biology & Conservation (3 cr)	
NRES 312 Intro to Geospatial Information Systems (3 cr)	
NRES 388 Employment Seminar (1 cr)	
NRES 412 Intro to Geographic Information Systems (4 cr)	
NRES 415 Water Resources Seminar (1 cr)	
NRES 418 Intro to Remote Sensing (4 cr)	
NRES 419/419L Chemistry of Natural Waters/Lab (4 cr)	
NRES 420 Applications of Remote Sensing in Agriculture & Natural Resources (4 cr)	
NRES 421 Field Techniques in Remote Sensing (3 cr)	
NRES 475 Water Quality Strategies (3 cr)	
NRES 463 Fisheries Science (4 cr)	
NRES 464 Fisheries Biology (3 cr)	
NRES 468 Wetlands (4 cr)	
NRES 489 Ichthyology (4 cr)	
NRES 497 Career Experiences (1 cr)	

<u>Plant Pathology Courses</u>	
PLPT 270 Biological Invaders (3 cr)	
PLPT 370 Biology of Fungi (3 cr)	

\* Because of prerequisites, students wishing to enroll in these courses should first seek counsel from their adviser and then request permission from instructor.

And/or any optional courses listed but not taken under the Natural Resource Core Courses, Environmental Restoration Science Courses, or Option Requirements headings in this program

### Environmental Restoration Science Minor

#### Category 1 - Required Courses

<i>Complete these three requirements:</i>	<b>Hours</b>
SOIL 153 Soil Resources .....	4
SOIL 269 Principles of Soil Management or SOIL 361 Soils, Environment & Water Quality .....	3
SOIL 477 Great Plains Field Pedology.....	4

#### Category 2 - Advanced Soil Science Courses

<i>Select two courses:</i>	<b>Hours</b>
SOIL 354 Soil Conservation & Watershed Management ...	4
SOIL 366 Soil Nutrient Relationships .....	4
SOIL 455 Soil Chemistry & Mineralogy.....	3
SOIL 460 Soil Microbiology .....	3
SOIL 461 Soil Physics .....	3

#### Category 3 - Courses in Related Fields

<i>Select one courses:</i>	<b>Hours</b>
AECN 265 Resources & Environmental Economics.....	3
CIVE 326 Principles of Environmental Engineering.....	2
CIVE 353 Hydrology .....	3
GEOG 419 Remote Sensing .....	3
(also GEOL, AGRO 419)	
NRES 281 Intro to Water Science .....	3
(also GEOG, WATS 281)	
SOIL 475 Water Quality Strategy .....	3
(also AGRO, CIVE, ENGR, GEOL, MSYM, POLS, NRES, and SOCI 475)	

NOTE: Category 3 courses required in the degree cannot be used for the soil science minor.

### Courses of Instruction (SOIL)

**[IS] 101. Soil and Society** (2 cr) Lec. Students in CASNR must use this as a free elective.  
Soils and civilization. Soil disasters due to erosion, salinization or contamination. Historical failures in soil conservation. Dependence of highways, building foundations and waste treatment on soil behavior. Ecological functions of soil. Soils as the source of food and fiber production.

[ES][IS] **153. Soil Resources** (AGRO, HORT 153) (4 cr I, II) Lec 1, act 4. Prereq: High school chemistry or one semester college chemistry.  
For course description, see AGRO 153.

**269. Principles of Soil Management** (AGRO 269) (3 cr I) Lec 3. Prereq: AGRO 153.  
For course description, see AGRO 269.

**279. Soil Evaluation** (AGRO, NRES 279) (1 cr, max 3 I, II)  
Soil profile characteristics and evaluation of these characteristics in terms of soil genesis, classification, and land use.

**295. Internship in Agronomy** (AGRO, RNGE 295) (1-5 cr, max 12 I, II, III)  
For course description, see AGRO 295.

[IS] **354. Soil Conservation and Watershed Management** (MSYM, WATS 354) (3 cr I) Lec 2, lab 3. Prereq: AGRO/SOIL 153 and MATH 109 or equivalent.  
For course description, see MSYM 354.

**361. Soils, Environment and Water Quality** (AGRO, GEOL, NRES, WATS 361) (3 cr II) Lec 3. Prereq: AGRO/HORT/SOIL 153; MATH 102 or 103; and one semester CHEM or equivalent. Chemical and physical processes that influence the fate and transport of contaminants (inorganic, organic, microbial) in soil-water environments. Extent, fate, mitigation and impact of various sources of pollution. Remedial technologies used for environmental restoration of contaminated environments.

[IS] **366. Soil Nutrient Relationships** (AGRO 366) (4 cr II) Lec 3, lab 3. Prereq: AGRO 153. For course description, see AGRO 366.

**453. Urban Soil Properties and Management** (AGRO, HORT, LARC 453) (3 cr I) Lec 3. Prereq: AGRO/HORT/SOIL 153. For course description, see HORT 453.

**455. Soil Chemistry and Mineralogy** (AGRO, NRES 455/855) (3 cr I) Lec 3. Prereq: AGRO/HORT/SOIL 153 or GEOL 101; CHEM 109 and 110; CHEM 221 or 251 or equivalent. For course description, see AGRO 455/855.

**457. Soil Chemical Measurements** (AGRO, NRES 457/857) (2-3, max 3 cr I) Lec 2, lab 4-6. Permission required to register for 2 cr. Prereq: AGRO 153, CHEM 116 or 221 or equivalent or permission. Permission required to register for 2 cr. Students registered for 3 cr will design, carry out, and report on an independent study project conducted during the semester. Offered even-numbered calendar years.

For course description, see AGRO 457/857.

**458. Soil Physical Determinations** (AGRO, NRES 458/858) (2 cr I) Lab 3, plus 3 hrs to be arranged. Prereq: SOIL/AGRO/GEOL/WATS 361; PHYS 141 or equivalent; MATH 102 or 103. Graduate students in NRES/AGRO 458/848 or SOIL 458 are expected to carry out an independent project and give an oral report. For course description, see NRES 458/858.

**460. Soil Microbiology** (AGRO, NRES 460/860, BIOS 447/847) (3 cr II) Lec 3. Prereq: One semester microbiology; one semester biochemistry or organic chemistry. For course description, see AGRO 460/860.

**461. Soil Physics** (AGRO, GEOL, NRES 461/861; WATS 461) (3 cr I) Lec 3. Prereq: AGRO/SOIL 153, PHYS 141 or equivalent, one semester of calculus. Recommended: Parallel AGRO/NRES/ SOIL 458.

For course description, see NRES 461/861.

(ACE 10) **475. Water Quality Strategy**<sup>1</sup> (AGRO, CIVE, CRPL, GEOL, MSYM, NRES, POLS, SOCI 475/875; WATS 475) (3 cr II) Lec 3. Prereq: Senior standing or permission. For course description, see AGRO 475/875.

[IS] **477. Great Plains Field Pedology** (AGRO, NRES 477/877, GEOG 467/867) (4 cr II) Lec 3. Lab. Prereq: AGRO/SOIL 153 or permission. For course description, see NRES 477/877.

**495. Grasslands Seminar** (AGRO, ENTO, GRAS, HORT, NRES 495) (1-2 cr, max 4 cr I) Prereq: Junior standing. For course description, see GRAS 495.

**496. Independent Study** (AGRO, RNGE 496/896) (1-6 cr, max 6 I, II, III) For course description, see AGRO 496/896.

**498. Senior Project**<sup>1</sup> (AGRO 498) (1 or 3 cr I, II) Prereq: Senior standing. For course description, see AGRO 498.

**499H. Honors Thesis** (AGRO, RNGE 499H) (3-6 cr, max 6 I, II, III) Prereq: Admission to the University Honors Program and permission, AGRI 299H recommended. For course description, see AGRO 499H.

## Environmental Studies

**Director and Chief Undergraduate Adviser:** David Gosselin, 150 Hardin Hall

**Academic Adviser:** Sara Yendra, 345 Nebraska Union and 149B Hardin Hall

**Coordinating Committee:** Burbach (natural resources), Comfort (natural resources), Hage (chemistry), Lawson (geoscience), Namurlani (geography), Pilson (biology), Wandsnider (anthropology)

**Liaison Persons:** Greg Snow, Associate Dean (ASC); Steve Waller, Dean (CASNR)

**Web site:** [www.unl.edu/esp](http://www.unl.edu/esp)

The environmental studies degree program is designed for students who want to make a difference and contribute to solving current as well as future environmental challenges on a local to global scale. Solutions to such problems as climate change, pollution, and resource conservation require individuals who have broad-based knowledge in the natural sciences, social sciences, and the humanities as well as strength in a specific discipline. The environmental studies degree program provides students with a degree and the skills to work across disciplines, and offers the versatility needed for them to be competitive in the job market.

Students may select a BS track through the College of Agricultural Sciences and Natural Resources (CASNR) or a BS or BA track through the College of Arts and Sciences (see "Environmental Studies" on page 73). The degree program consists of four required components:

1. Every major must complete a set of core courses that provide breadth in environmental science and issues.
2. Students must complete a set of general collateral course requirements, depending on the degree track chosen. These provide students with some useful analytical tools.
3. Prior to graduation, students must complete a "capstone" senior thesis (ENVR 499A and 499B) which includes a written thesis and oral defense under the guidance of a faculty adviser. In addition, students must complete the environmental studies seminar (ENVR 489).

## Requirements

	Hours	Hours	
<b>Environmental Studies Core</b> .....	29	<b>Applied Climate Science Core</b> .....	31
NRES 101 Natural Resources Orientation .....	1	METR 205 Intro to Atmospheric Sciences .....	4
NRES/AGRI 103 Intro to Agricultural & Natural Resource Systems .....	3	METR 370 Basic & Applied Climatology .....	3
NRES 323 Natural Resources Policy .....	3	METR 454A Regional Climatology .....	3
ENVR 289 Environmental Studies Sophomore Orientation .....	1	NRES 208 Applied Climate Sciences .....	3
ENVR 489 Environmental Studies Seminar .....	1	NRES 220 & 222 Principles of Ecology & Lab .....	4
ENVR 499A Environmental Studies Senior Thesis I (1 cr) <b>and</b> ENVR 499B Environmental Studies Senior Thesis II (2 cr) <b>or</b> ENVR 499H (3 cr) for UNL Honors Students .....	3	NRES 408 Microclimate: The Biological Environment .....	3
Water and Climatic Resources .....	7	NRES 452 Climate & Society .....	3
METR 200 Weather & Climate (4 cr)		Applied Climate Science Core Electives .....	8
NRES 281 Intro to Water Science (3 cr)		<i>Select 8-credits from among the following:</i> .....	8
SOIL 153 Soil Resources .....	4	Climate	
ANTH 473 Ecological Anthropology <b>or</b> ANTH 474 Applied & Developmental Anthropology <b>or</b> ANTH 477 Hunters-Gatherers .....	3	METR 475 Physical Climatology (3 cr)	
SOCI 446 Environmental Sociology .....	3	NRES 467 Global Climate Change (3 cr)	
<b>Geographic Information Science</b> .....	3-4	NRES 469 Bio-atmospheric Instrumentation (3 cr)	
<i>Select from:</i>		NRES 496 Independent Study (1-5 cr)	
NRES 312 Intro to Geospatial Information Sciences (3 cr)		METR 498 Climate Change: Past, Present & Future (3 cr)	
NRES 412 Intro to Geographic Information Systems (4 cr)		<b>Human Dimensions</b>	
NRES 418 Intro to Remote Sensing (4 cr)		NRES 415 Water Resources Seminar (1 cr)	
Natural Resource & Environmental Economics .....	3	NRES 423 Integrated Resources Management (3 cr)	
<i>Select from:</i>		AECN 456 Environmental Law (3 cr)	
NREE 265 Resource & Environmental Economics I (3 cr)		AECN 457 Water Law (3 cr)	
NREE 465 Resource & Environmental Economics II (3 cr)		AECN/NREE 465 Resource & Environmental Economics II (3 cr)	
<b>Statistics</b> .....	3	<b>Biology</b>	
STAT 218 Intro to Statistics .....	3	NRES 406 Plant Ecophysiology: Theory & Practice (4 cr)	
<b>Natural Sciences</b> .....	8	NRES 417 Agroforestry Systems in Sustainable Agriculture (3 cr)	
BIOS 101 & 101L General Biology & Lab (4 cr) <b>and</b> BIOS 109 General Botany (4 cr) <b>or</b> BIOS 112 & 112L Intro to Zoology & Lab (4 cr) .....	4	NRES 424 Forest Ecology (4 cr)	
<b>Mathematics</b> .....	10	<b>Methods</b>	
MATH 208 Analytical Geometry & Calculus III (3 cr)		MATH 208 Analytical Geometry & Calculus III (3 cr)	
STAT 380 Statistics & Applications (3 cr)		STAT 450 Intro to Regression Analysis (3 cr)	
STAT 450 Intro to Regression Analysis (3 cr)		<b>Mathematics</b>	
MATH 106 & 107 Analytical Geometry & Calculus I & II (10 cr)		MATH 106 & 107 Analytical Geometry & Calculus I & II (10 cr)	

Natural Sciences ..... 16-17  
 CHEM 109 & 110 Chemistry I & II (8 cr) or  
 CHEM 113, 114 & 116 Fundamental Chemistry  
 I & II and Quantitative Chemistry Lab (9 cr);  
 and PHYS 211 & 212 General Physics I & II  
 (8 cr)

**NOTE:** Environmental studies majors must earn a "C" or "P" in all Environmental Studies Core and Applied Climate Science Core or Natural Resources Core and Mathematics and Statistics and Natural Sciences courses specified above.

Electives ..... 0-1

## Natural Resources Option

The natural resources option is for the student interested in an interdisciplinary education focusing on the use, management and conservation of renewable natural resources. The curriculum is based upon the integration of ecological principles with the utilization and conservation of natural resources. The option will prepare students for careers in private and public organizations that are responsible for the use and management of natural resources and protection of the environment. They will be prepared for positions in fields such as inventory, planning, sustainable development, policy analysis and management. They also may fulfill requirements for pre-professional degrees and graduate studies.

Hours

**Natural Resources Core** ..... 28-34  
 GEOL 101 Physical Geology ..... 4  
 NRES 220 Principles of Ecology ..... 3

### Plant Resources

Select one from the following: ..... 3-4

BIOS 374 Diversity of Plants (4 cr)  
 BIOS 455 Great Plains Flora (3 cr)  
 BIOS 471 Plant Taxonomy (4 cr)  
 NRES 212 Landscape Plants (3 cr)  
 NRES 310 Intro to Forest Management (4 cr)  
 NRES 417 Agroforestry Systems in Sustainable Agriculture (3 cr)  
 NRES 424 Forest Ecology (4 cr)  
 NRES 468 Wetlands (4 cr)  
 RNGE 242 North American Range Plants (1 cr)  
 RNGE 440 Great Plains Ecosystems (3 cr)  
 RNGE 442 Wildland Plants (3 cr)

### Animal Resources

Select one from the following: ..... 3-4

BIOS 386 Vertebrate Zoology (4 cr)  
 BIOS 475 & 475L Ornithology & Lab (4 cr)  
 BIOS 476 Mammalogy (4 cr)  
 NRES 211 Intro to Conservation Biology (3 cr)  
 NRES 311 Wildlife Ecology & Management (3 cr)  
 NRES 402 Aquatic Insects (2 cr)  
 NRES 433 Wildlife Management Techniques (4 cr)  
 NRES 450 Biology of Wildlife Populations (4 cr)  
 NRES 459 Limnology (4 cr)  
 NRES 463 Fisheries Science (4 cr)  
 NRES 464 Fisheries Biology (3 cr)  
 NRES 489 Ichthyology (4 cr)

### Integrated Resource Management

Select one from the following: ..... 3

AECN 357 Natural Resources & Environmental Law (3 cr)  
 NRES 423 Integrated Resources Management (3 cr)  
 POLS 234 Government Regulations (3 cr)

### Agricultural Sciences

Select one from courses in AECN, AGRO, HORT, or ASCI ..... 3-4

### Forestry and Range Management

Select one from the following: ..... 3-4  
 NRES 211, 299, 310, 348, 350, 399, 402, 404, 417, 423, 424, 448, 450, 454, 459, 463, 464, 468, 489, and RNGE 240, 242, 340, 440, 442, 445, 496.

### Management and Administration

Select one from courses in ACCT, CRPL, MNGT, or POLS ..... 3-4

### Soil and Water

Select one from courses in SOIL or WATS ..... 3-4

**Mathematics** ..... 2  
 MATH 102 Trigonometry (2 cr) or MATH 103 College Algebra & Trigonometry (5 cr) or MATH 104 Calculus for Managerial & Social Sciences (3 cr) or MATH 106 Analytical Geometry & Calculus I (5 cr) Credit hours earned over 2 in MATH courses will count towards electives for this option.

**Natural Sciences** ..... 12-13  
 CHEM 105 & 106 Chemistry in Context I & II (8 cr) or CHEM 109 & 110 General Chemistry I & II (8 cr) and PHYS 141 Elementary General Physics (5 cr) or PHYS 211 General Physics (4 cr) or MSYM 109 Physical Principles in Agriculture (4 cr)

**NOTE:** Environmental studies majors must earn a "C" or "P" in all Environmental Studies Core and Applied Climate Science Core or Natural Resources Core and Mathematics and Statistics and Natural Sciences courses specified above.

Electives ..... 8-16

## Environmental Studies Minor

- Total 18 hours with 6 hours at 300 level or above to include:
 

<b>GEOG 181 Quality of the Environment</b> ..... 3 or AGRI/NRES 103 Intro to Agricultural & Natural Resource Systems (3 cr)	<b>ENVR 489 Environmental Studies Seminar</b> ..... 1 A minimum of 14 hrs from the following: ..... 14 ANTH 473 Ecological Anthropology (3 cr) BIOS 232 Ecological Issues in the Great Plains (3 cr) or BIOS 220 Principles of Ecology (3 cr) or BIOS 207 Ecology & Evolution* (4 cr) CHEM 105 Chemistry in Context I or CHEM 109 General Chemistry or CHEM 113 Fundamental Chemistry (4 cr) ENVR 289 Environmental Studies: Sophomore Orientation (1 cr) ENVR 499A and 499B Senior Thesis (3 cr) GEOL 106 Environmental Geology (3 cr) METR 200 Weather & Climate (4 cr) NRES 323 Natural Resources Policy (3 cr) SOCI 446 Environmental Sociology (3 cr) or SOCI 444 Social Demography
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\*For majors in biological sciences, BIOS 207 (4 cr) only is accepted.

## Courses of Instruction (ENVR)

Prior to graduation, students must complete a "capstone" senior thesis (ENVR 499A and 499B) which include a written thesis and oral defense under the guidance of a faculty adviser. In addition, students must complete the environmental studies seminar (ENVR 489).

The environmental studies program has an optional elective internship course (ENVR 497) which provides the opportunity to gain work experience in an off-campus setting related to a student's academic and career objectives. Advanced students are encouraged to explore this possibility with the adviser in their area of emphasis and with the Chief Undergraduate Adviser.

(ACE 8) [IS] 189H. University Honors Seminar (3 cr I) Lec 3. Prereq: Good standing in the University Honors Program. A University Honors Seminar 189H course is required of all students in the University Honors Program. ENVR 189H is 'Letter grade only.' Topics vary.

289. Environmental Studies: Sophomore Orientation (1 cr I) Lec, rct. Prereq: Sophomore standing, or transfer student with less than 72 credit hours. Pass/No Pass only. Overview of various emphasis options within the Environmental Studies Program through a seminar of current environmental issues.

489. Environmental Studies Seminar (1 cr, II) Lec. Prereq: Senior standing; ENVR major or minor; or permission of program director. Majors must have passed ENVR 289. Series of speakers dealing with topics related to an environmental theme selected for its appropriate and timely nature by the Environmental Studies Coordinating Committee. Topic varies.

497. Internship in Environmental Studies (1-4 cr, max 12) Prereq: Junior standing; environmental studies major; prior arrangement with and permission of environmental program director and emphasis adviser. Experience in off-campus setting that is directly relevant to environmental studies.

**498. Independent Study** (1-4 cr, max 12) Prereq: Environmental studies major; prior arrangement with and permission of program director and emphasis adviser.

(ACE 10) 499A. Environmental Studies Senior Thesis I<sup>1</sup> (1 cr) Prereq: Junior or senior standing; environmental studies major or minor; prior arrangement with program director and emphasis adviser or academic adviser. First course of a two-semester sequence of courses consisting of ENVR 499A and 499B. Pass/No Pass only. Preparation for writing the senior thesis

(ACE 10) 499B. Environmental Studies Senior Thesis II<sup>1</sup> (2 cr) Prereq: ENVR 499A. Second course of a two-semester sequence of courses consisting of ENVR 499A and 499B. The thesis is to be written under the supervision of the emphasis adviser or a faculty member designated by the adviser. A committee of two (the faculty member guiding the thesis and an additional member with expertise in the topic) will review the thesis.

(ACE 10) 499H. Honors: Environmental Studies Senior Thesis I & II<sup>1</sup> (3 cr) Lec, rct, ind. Prereq: Junior standing; good standing in the University Honors Program; ENVR major or minor; prior arrangement with program director, emphasis adviser, and honors program adviser. For course description, see ENVR 499A and 499B.

## Fisheries and Wildlife

**Coordinator:** Associate Professor Larkin A. Powell, School of Natural Resources, 419 Hardin Hall

**Fisheries and Wildlife Curriculum Committee:** Awada, Boehmer, Brandle, Ferraro, Freeman, Hygnstrom, Pegg, Powell, Thomas, Tyre, Wedin

Fisheries and wildlife professionals are responsible for the conservation, protection, regulation, and management of our nation's fish and wildlife resources. Their management strategies must provide for both consumptive (hunting, fishing) and non-consumptive uses (bird watching, non-game species enhancement, threatened and endangered species protection, and others).

Students who successfully fulfill the requirements in the fisheries and wildlife degree program are prepared to enter postgraduate programs as well as competitively enter the work force. The curriculum reflects civil service requirements of the federal government for wildlife and fisheries biologists and incorporates course requirements for certification in professional societies. The breadth of the curriculum prepares graduates to address complex environmental issues and to interact professionally with a multitude of natural resources disciplines in order to develop solutions to problems. Typical careers for graduates of this degree program include fisheries biologist, wildlife biologist, law enforcement officers, ecologists, habitat managers, bookkeepers, disease specialists, or research biologists with private consulting firms and zoos, or with governmental resource management agencies at the local, state, or federal level.

Fisheries and wildlife ecology and management is a very broad field. Students should consult their adviser as they select one of the following options:

- Aquatic Ecology
- Conservation Biology
- Fisheries Ecology and Management
- Geospatial Information Sciences
- Habitat Management
- Law Enforcement
- Wildlife Damage Management
- Wildlife Disease
- Wildlife Ecology and Management
- Zoo Animal Care
- General Option

## Requirements

The following basic courses are required for students in fisheries and wildlife. In addition, students must select and meet the requirements of one of the options, depending on their own individual interests and career objectives.

	Hours
<b>Natural Resources Core</b> .....	19-21
NRES 103 Intro to Agricultural & Natural Resource Systems .....	3
NRES 108 Earth's Natural Resource Systems <b>or</b> SOIL 153 Soil Resources <b>or</b> GEOL 101 Physical Geology <b>or</b> GEOL 106 Environmental Geology.....	3-4
NOTE: SOIL 153 is strongly recommended for students in the Habitat Management & Wildlife Ecology & Management options.	
NRES 220 & 222 Principles of Ecology & Lab .....	4
AECN 265 Resource Economics I .....	3
Geographic Information Science Course .....	3-4
<i>Select one course from:</i>	
NRES 312 Intro to Geospatial Information Sciences (3 cr)	
NRES 412 Intro to Geographic Information (4 cr)	
NRES 418 Intro to Remote Sensing (4 cr)	
NRES 323 Natural Resources Policy .....	3
<b>Mathematics</b> .....	3-5
MATH 104 Calculus for Managerial & Social Sciences (3 cr) <b>or</b> MATH 106 Analytical Geometry & Calculus I (5 cr)	
<b>Statistics</b> .....	3
STAT 218 Intro to Statistics (3 cr)	
<b>Communications</b> .....	9
Written communication.....	3
Select from: ENGL 101, 150, 151, 254; JGEN 200, 300; JOUR 444	
Oral communication .....	3
Select from: COMM 109, 209, or 286; ALEC 102	
Communication/Interpersonal Skills Elective.....	3
Select from: ALEC 102; ENGL 101, 150, 151, 254; JGEN 120, 200, 300; COMM 109, 209, 286; JOUR 444	
<b>Economics, Humanities and Social Sciences</b> .....	18
ECON 211 or ECON 212 or AECN 141.....	3
ACE Courses.....	12
Select one course each from ACE outcomes 5, 7, 8, and 9.	
Select one elective in this area.....	3
<b>Natural Sciences</b> .....	24
CASNR approved life sciences .....	12
BIOS 101 & 101L General Biology & Lab .....	4
BIOS 109 General Botany .....	4
BIOS 111 & 112L Intro to Zoology & Lab .....	4
Physical Science Courses .....	12
CHEM 105 & 106 Chemistry in Context I & II (8 cr) <b>or</b> CHEM 109 & 110 General Chemistry I & II (8 cr).....	8
NOTE: CHEM 109 & 110 is strongly recommended for students in the Wildlife Disease option.	

MSYM 109 Physical Principles in Agriculture <b>or</b> PHYS 141 Elementary General Physics <b>or</b> PHYS 151 Elements of Physics.....	4
<b>Fisheries and Wildlife</b> .....	9
NRES 101 Natural Resources Orientation .....	1
NRES 311 Wildlife Ecology & Management .....	3
NRES 433 Wildlife Management Techniques <b>or</b> NRES 463 Fisheries Science ( <i>capstone experience</i> ) .....	4
NOTE: NRES 433 is strongly recommended for students in the Habitat Management, Wildlife Damage Management, and Wildlife Ecology and Management options. NRES 463 is strongly recommended for students in the Aquatic Ecology and Management and Fisheries Ecology and Management options.	
NRES 404 Forestry, Fisheries & Wildlife Seminar .....	1
<b>Total Requirements</b> .....	82
<b>Option Electives and Requirements</b> .....	46
<b>Total Credit Hours Required for Graduation</b> .....	128

### Completion of Basic Courses

The fisheries and wildlife program requires students to complete the following courses by the completion of the spring of their sophomore year.

- Final math requirements (MATH 104 or 106)
- Statistics (STAT 218)
- 3 hours of written communication
- BIOS 101/101L
- NRES 220/222 Ecology
- CHEM 105 or 109
- Physics (MSYM 109 or PHYS 151)

### Options

#### Aquatic Ecology Option

This option is designed for students considering careers in water quality, aquatic ecology, or limnology. Completion of this program also provides excellent preparation for graduate study.

	Hours
<b>Requirements</b> .....	24
<i>Select one course from the following:</i>	
BIOS 381 Invertebrate Zoology (4 cr)	
BIOS 488 Natural History of the Invertebrates (4 cr)	
NRES 386 Vertebrate Zoology (4 cr)	
Animal Course.....	3-4
<i>Select one course from the following:</i>	
BIOS 487 Field Parasitology (4 cr)	
BIOS 488 Natural History of the Invertebrates (4 cr)	
ENTO 402 & 402L Aquatic Insects & Lab (3 cr)	
NRES 474 Herpetology (4 cr)	
NRES 489 Ichthyology (4 cr)	
Plant Course.....	3-4
<i>Select one course from the following:</i>	
AGRO 442 Wildland Plants (3 cr)	
BIOS 455 Great Plains Flora (4 cr)	
BIOS 471 Plant Taxonomy (4 cr)	
NRES 310 Intro to Forest Management (4 cr)	
NRES 424 Forest Ecology (4 cr)	
NRES 208 Applied Climate Sciences .....	3
NRES 281 Intro to Water Science .....	3
NRES 459 Limnology.....	4
NRES 468 Wetlands (4 cr) <b>or</b> NRES 470 Lake & Reservoir Restoration (3 cr).....	3-4
<i>Select one course from the following:</i>	
NRES 496 Independent Study (1-3 cr)	
NRES 497 Career Experiences (1-3 cr)	
NRES 499 Thesis Research (3-6 cr)	
NRES 499H Honors Thesis (3-6 cr)	
<b>Aquatic Ecology Option Electives</b> .....	12
<i>Select from: (at least 6 hrs must be 400 level)</i>	
AECN 457 Water Law (3 cr)	
AECN 465 Resource & Environmental Economics II (3 cr)	
AGRO 315 Genetics (4 cr)	

BIOS 381 Invertebrate Zoology (4 cr)	
BIOS 454 Ecological Interactions (4 cr)	
BIOS 457 Ecosystem Ecology (4 cr)	
BIOS 462 Animal Behavior (3 cr)	
BIOS 472 Evolution (4 cr)	
BIOS 473 Freshwater Algae (4 cr)	
BIOS 487 Field Parasitology (4 cr)	
BIOS 488 Natural History of the Invertebrates (4 cr)	
BSEN 350 Soil & Water Resources Engineering (3 cr)	
BSEN 422 Pollution Prevention (3 cr)	
BSEN 425 Design of Water Management Systems (3 cr)	
BSEN 455 Non-point Source Pollution Control Engineering (3 cr)	
BSEN 458 Groundwater Engineering (3 cr)	
CHEM 251 & 253 Organic Chemistry & Lab (4 cr)	
CIVE 353 Hydrology (3 cr)	
CIVE 430 Fundamentals of Water Quality Monitoring (3 cr)	
CIVE 456 Surface Water Hydrology (3 cr)	
ENTO 402 & 402L Aquatic Insects & Lab (3 cr)	
MNGT 360 Managing Behavior in Organizations (3 cr)	
MNGT 361 Personnel/Human Resource Management (3 cr)	
NRES 211 Intro to Conservation Biology (3 cr)	
NRES 308 Biogeography (3 cr)	
NRES 388 Employment Seminar (1 cr)	
NRES 415 Water Resources Seminar (1 cr)	
NRES 419 & 419L Chemistry of Natural Waters & Lab (4 cr)	
NRES 420 Applications of Remote Sensing in Agriculture & Natural Resources (4 cr)	
NRES 421 Field Techniques in Remote Sensing (3 cr)	
NRES 423 Integrated Resource Management (3 cr)	
NRES 475 Water Quality Strategies (3 cr)	
NRES 492 Study Tours in Natural Resource Management (1-3 cr)	
POLS 210 Bureaucracy & the American Political System (3 cr)	
<i>And/or any optional courses listed but not taken under the Natural Resources Core courses, Fisheries and Wildlife courses, or Option Requirements headings in this program.</i>	
<b>Free Electives</b> .....	10
<b>Conservation Biology Option</b>	
This option is designed for students considering careers in conservation, research biology, restoration ecology, and policy. Completion of this program also provides excellent preparation for graduate study.	
	Hours
<b>Requirements</b> .....	25
<i>Select one course from the following:</i>	
BIOS 381 Invertebrate Zoology (4 cr)	
BIOS 488 Natural History of the Invertebrates (4 cr)	
NRES 386 Vertebrate Zoology (4 cr)	
Animal Course.....	3-4
<i>Select one course from the following:</i>	
BIOS 475 Ornithology (3 cr)	
BIOS 487 Field Parasitology (4 cr)	
ENTO 402 & 402L Aquatic Insects & Lab (3 cr)	
ENTO 411 Field Entomology (4 cr)	
NRES 464 Fisheries Biology (3 cr)	
NRES 474 Herpetology (4 cr)	
NRES 476 Mammalogy (4 cr)	
NRES 489 Ichthyology (4 cr)	
Plant Course.....	3-4
<i>Select one course from the following:</i>	
AGRO 442 Wildland Plants (3 cr)	
BIOS 455 Great Plains Flora (4 cr)	
BIOS 471 Plant Taxonomy (4 cr)	
NRES 310 Intro to Forest Management (4 cr)	
NRES 424 Forest Ecology (4 cr)	
NRES 208 Applied Climate Sciences .....	3
NRES 281 Intro to Water Science .....	3
NRES 459 Limnology.....	4
NRES 468 Wetlands (4 cr) <b>or</b> NRES 470 Lake & Reservoir Restoration (3 cr).....	3-4
<i>Select one course from the following:</i>	
NRES 496 Independent Study (1-3 cr)	
NRES 497 Career Experiences (1-3 cr)	
NRES 499 Thesis Research (3-6 cr)	
NRES 499H Honors Thesis (3-6 cr)	
<b>Plant Course</b> .....	3-4
<i>Select one course from the following:</i>	
AGRO 442 Wildland Plants (3 cr)	
BIOS 455 Great Plains Flora (4 cr)	
BIOS 471 Plant Taxonomy (4 cr)	
NRES 310 Intro to Forest Management (4 cr)	
NRES 424 Forest Ecology (4 cr)	
Genetics Course.....	4
<i>Select one course from the following:</i>	
AGRO 315 Genetics (4 cr)	
BIOS 206 General Genetics (4 cr)	

NRES 211 Intro to Conservation Biology.....	3
NRES 450 Biology of Wildlife Populations.....	4
Sociology or Anthropology Course .....	3
<i>Select one course from the following:</i>	
SOCI 444 Social Demography (3 cr)	
SOCI 446 Environmental Sociology (3 cr)	
ANTH 473 Ecological Anthropology (3 cr)	
<b>NOTE: Students should choose at least 9 credits of sociology or anthropology courses under Essential Studies courses in Forestry and Wildlife Major Requirements to meet prerequisites for upper level option requirements.</b>	
<i>Select one course from the following:.....</i>	1-3
NRES 496 Independent Study (1-3 cr)	
NRES 497 Career Experiences (1-3 cr)	
NRES 499 Thesis Research (3-6 cr)	
NRES 499H Honors Thesis (3-6 cr)	
Conservation Biology Option Electives.....	12
<i>Select from: (at least 6 hrs must be 400 level)</i>	
AECN 357 Natural Resources & Environmental Law (3 cr)	
AECN 388 Ethics in Agriculture & Natural Resources (3 cr)	
AGRI 200 Intro to Pesticides & Their Use (2 cr)	
AGRO 204 Resource-Efficient Crop Management (3 cr)	
AGRO 270 Biological Invaders (3 cr)	
BIOS 373 Biopsychology (3 cr)	
BIOS 385 Parasitology (4 cr)	
BIOS 454 Ecological Interactions (4 cr)	
BIOS 457 Ecosystem Ecology (4 cr)	
BIOS 462 Animal Behavior (3 cr)	
BIOS 470 Prairie Ecology (4 cr)	
BIOS 472 Evolution (4 cr)	
BIOS 487 Field Parasitology (4 cr)	
BIOS 488 Natural History of the Invertebrates (4 cr)	
CHEM 251 Organic Chemistry	
MNGT 360 Managing Behavior in Organizations (3 cr)	
MNGT 361 Personnel/Human Resource Management (3 cr)	
MATH 238 Mathematics Methods for Biology & Medicine (5 cr)	
NRES 208 Applied Climate Sciences (3 cr)	
NRES 348 Wildlife Damage Management (3 cr)	
NRES 388 Employment Seminar (1 cr)	
NRES 413 Environmental Leadership (3 cr)	
NRES 415 Water Resources Seminar (1 cr)	
NRES 423 Integrated Resource Management (3 cr)	
NRES 448 Advanced Topics in Wildlife Damage Management (2 cr)	
NRES 459 Limnology (4 cr)	
NRES 464 Fisheries Biology (3 cr)	
NRES 468 Wetlands (4 cr)	
NRES 489 Ichthyology (4 cr)	
NRES 492 Study Tours in Natural Resource Management (1-3 cr)	
PHYS 142 Elementary General Physics II (5 cr)	
POLS 210 Bureaucracy & the American Political System (3 cr)	
RNGE 240 Forage Crop & Range Management (4 cr)	
RNGE 440 Great Plains Ecosystem (3 cr)	
RNGE 444 Vegetation Analysis (3 cr)	
<i>And/or any optional courses listed but not taken under the Natural Resources Core courses, Fisheries and Wildlife courses, or Option Requirements headings in this program.</i>	
<b>Free Electives .....</b>	<b>9</b>

### Fisheries Ecology and Management Option

This option is designed for students considering careers in fisheries biology, biological research, and fisheries management. Completion of this program also provides excellent preparation for graduate study.

Students completing the Fisheries Ecology and Management option qualify for professional certification in the American Fisheries Society (AFS). Students are encouraged to consult with their adviser and the AFS website for further information. AFS requires a minimum grade of a C to receive credit for courses that apply toward professional certification.

<b>Requirements.....</b>	<b>Hours</b>
NRES 386 Vertebrate Zoology .....	4
Animal Course .....	4
<i>Select one course from the following:</i>	
NRES 489 Ichthyology (4 cr)	
Plant Course .....	4
<i>Select one course from the following:</i>	
BIOS 473 Freshwater Algae (4 cr)	
NRES 310 Intro to Forest Management (4 cr)	
NRES 424 Forest Ecology (4 cr)	
Water Resources Course .....	3
<i>Select one course from the following:</i>	
NRES 208 Applied Climate Sciences (3 cr)	
NRES 281 Intro to Water Science (3 cr)	
NRES 459 Limnology.....	4
Aquatic Ecology Course.....	3-4
<i>Select one course from the following:</i>	
NRES 402 & 402L Aquatic Insects & Lab (3 cr)	
NRES 468 Wetlands (4 cr)	
NRES 470 Lake & Reservoir Restoration (3 cr)	
<b>NOTE: Students can also use a substitution/waiver form to count the following course for this requirement: NRES 496 Stream Ecology.</b>	
<i>Select one course from the following:.....</i>	1-3
NRES 496 Independent Study (1-3 cr)	
NRES 497 Career Experience (1-3 cr)	
NRES 499 Thesis Research (3-6 cr)	
NRES 499H Honors Thesis (3-6 cr)	
<b>Fisheries Ecology &amp; Management Option Electives...15</b>	
<i>Select from: (at least 6 hrs must be 400 level)</i>	
AGRO 315 Genetics (4 cr)	
BIOS 206 General Genetics (4 cr)	
BIOS 373 Biopsychology (3 cr)	
BIOS 381 Invertebrate Zoology (4 cr)	
BIOS 454 Ecological Interactions (4 cr)	
BIOS 462 Animal Behavior (3 cr)	
BIOS 472 Evolution (4 cr)	
BIOS 475 Ornithology (3 cr)	
BIOS 474 Herpetology (4 cr)	
BIOS 476 Mammalogy (4 cr)	
BIOS 487 Field Parasitology (4 cr)	
BIOS 488 Natural History of the Invertebrates (4 cr)	
CHEM 251 Organic Chemistry (3 cr)	
ENTO 402 & 402L Aquatic Insects & Lab (3 cr)	
ENTO 411 Field Entomology (4 cr)	
MNGT 360 Managing Behavior in Organizations (3 cr)	
MNGT 361 Personnel/Human Resource Management (3 cr)	
NRES 211 Intro to Conservation Biology (3 cr)	
NRES 308 Biogeography (3 cr)	
NRES 388 Employment Seminar (1 cr)	
NRES 402 Aquatic Insects (2 cr)	
NRES 415 Water Resources Seminar (1 cr)	
NRES 423 Integrated Resource Management (3 cr)	
NRES 433 Wildlife Management Techniques (4 cr)	
NRES 450 Biology of Wildlife Populations (4 cr)	
NRES 464 Fisheries Biology (3 cr)	
NRES 468 Wetlands (4 cr)	
NRES 489 Ichthyology (4 cr)	
NRES 492 Study Tours in Natural Resource Management (1-3 cr)	
PHYS 142 Elementary General Physics II (5 cr)	
POLS 210 Bureaucracy & the American Political System (3 cr)	
<i>And/or any optional courses listed but not taken under the Natural Resources Core courses, Fisheries and Wildlife courses, or Option Requirements headings in this program.</i>	
<b>Free Electives .....</b>	<b>9</b>

<b>Requirements.....</b>	<b>Hours</b>
NRES 386 Vertebrate Zoology .....	4
Animal Course .....	4
<i>Select one course from the following:</i>	
BIOS 475 Ornithology (3 cr)	
BIOS 487 Field Parasitology (4 cr)	
ENTO 402 & 402L Aquatic Insects & Lab (3 cr)	
ENTO 411 Field Entomology (4 cr)	
<i>Plant Course.....</i>	<i>3-4</i>
<i>Select one course from the following:</i>	
AGRO 440 Great Plains Ecosystems (3 cr)	
AGRO 442 Wildland Plants (3 cr)	
BIOS 455 Great Plains Flora (4 cr)	
BIOS 473 Freshwater Algae (4 cr)	
NRES 310 Intro to Forest Management (4 cr)	
NRES 417 Agroforestry Systems in Sustainable Agriculture (3 cr)	
NRES 424 Forest Ecology (4 cr)	
NRES 435 Agroecology (3 cr)	
RNGE 240 Forage Crop & Range Management (4 cr)	
<i>Water Resource Course.....</i>	<i>3</i>
<i>Select one course from the following:</i>	
NRES 208 Applied Climate Sciences (3 cr)	
NRES 281 Intro to Water Science (3 cr)	
GEOG 317 Cartography I: Intro to Cartography.....	4
NRES 412 Intro to Geographic Information Systems .4	
NRES 418 Intro to Remote Sensing.....	4
<i>Select one course from the following:.....</i>	<i>1-3</i>
NRES 496 Independent Study (1-3 cr)	
NRES 497 Career Experience (1-3 cr)	
NRES 499 Thesis Research (3-6 cr)	
NRES 499H Honors Thesis (3-6 cr)	
<b>Geospatial Information Sciences Option Electives....12</b>	
<i>Select from: (at least 6 hrs must be 400 level)</i>	
AGRO 315 Genetics (4 cr)	
GEOG 217 Mapping Science in the 21st Century (3 cr)	
GEOG 420 Digital Image Analysis of Remote Sensing Data (4 cr)	
MNGT 360 Managing Behavior in Organizations (3 cr)	
MNGT 361 Personnel/Human Resource Management (3 cr)	
NRES 211 Intro to Conservation Biology (3 cr)	
NRES 308 Biogeography (3 cr)	
NRES 348 Wildlife Damage Management (3 cr)	
NRES 388 Employment Seminar (1 cr)	
NRES 415 Water Resources Seminar (1 cr)	
NRES 420 Applications of Remote Sensing in Agriculture & Natural Resources (4 cr)	
NRES 421 Field Techniques in Remote Sensing (3 cr)	
NRES 423 Integrated Resource Management (3 cr)	
NRES 448 Advanced Topics in Wildlife Damage Management (2 cr)	
NRES 450 Biology of Wildlife Populations (4 cr)	
NRES 459 Limnology (4 cr)	
NRES 463 Fisheries Science (4 cr)	
NRES 464 Fisheries Biology (3 cr)	
NRES 468 Wetlands (4 cr)	
NRES 489 Ichthyology (4 cr)	
NRES 492 Study Tours in Natural Resource Management (1-3 cr)	
PHYS 142 Elementary General Physics II (5 cr)	
POLS 210 Bureaucracy & the American Political System (3 cr)	
<i>And/or any optional courses listed but not taken under the Natural Resources Core courses, Fisheries and Wildlife courses, or Option Requirements headings in this program.</i>	
<b>Free Electives .....</b>	<b>8</b>

<b>Habitat Management Option</b>	
This option is designed for students considering careers in habitat management, private lands management, or public lands (e.g., National Wildlife Refuge) management. Completion of this program also provides excellent preparation for graduate study.	
<b>Requirements.....</b>	<b>Hours</b>
NRES 386 Vertebrate Zoology .....	4
Animal Course .....	4
<i>Select one course from the following:</i>	
BIOS 475 Ornithology (3 cr)	
BIOS 487 Field Parasitology (4 cr)	
ENTO 402 & 402L Aquatic Insects & Lab (3 cr)	
ENTO 411 Field Entomology (4 cr)	

### Geospatial Information Sciences Option

This option is designed for students considering careers in wildlife biology that emphasize the use of technology such as geographic information systems, global positioning systems, and remote sensing. Completion of this program also provides excellent preparation for graduate study.

<b>Requirements.....</b>	<b>Hours</b>
NRES 386 Vertebrate Zoology .....	4
Animal Course .....	4
<i>Select one course from the following:</i>	
BIOS 475 Ornithology (3 cr)	
BIOS 487 Field Parasitology (4 cr)	
ENTO 402 & 402L Aquatic Insects & Lab (3 cr)	
ENTO 411 Field Entomology (4 cr)	

NRES 464 Fisheries Biology (3 cr)	Hours
NRES 474 Herpetology (4 cr)	
NRES 476 Mammalogy (4 cr)	
NRES 489 Ichthyology (4 cr)	
Plant Course ..... 3-4	
<i>Select one course from the following:</i>	
AGRO 131 Plant Science (3 cr)	
AGRO 240 Forage Crop & Range Management (4 cr)	
NRES 208 Applied Climate Sciences ..... 3	
Grassland Systems Course ..... 3-4	
<i>Select one course from the following:</i>	
BIOS 470 Prairie Ecology (4 cr)	
RNGE 440 Great Plains Ecosystems (3 cr)	
RNGE 442 Wildland Plants (3 cr)	
RNGE 444 Vegetation Analysis (3 cr)	
Forest Systems Course ..... 3-4	
<i>Select one course from the following:</i>	
NRES 310 Intro to Forest Management (4 cr)	
AGRO 417 Agroforestry Systems in Sustainable Agriculture (3 cr)	
NRES 424 Forest Ecology (4 cr)	
Aquatic Systems Course ..... 3-4	
<i>Select one course from the following:</i>	
NRES 459 Limnology (4 cr)	
NRES 463 Fisheries Science (4 cr)	
NRES 468 Wetlands (4 cr)	
NRES 470 Lake & Reservoir Restoration (3 cr)	
<b>NOTE:</b> Students can also use a substitution/waiver form to count the following courses for this requirement: NRES 496 Lake & Reservoir Management, NRES 496 Stream Ecology, or NRES 496 Lake & Stream Restoration. ..... 3-4	
Soil Science Course ..... 3-4	
<i>Select one course from the following:</i>	
MSYM 354 Soil Conservation & Watershed Management (3 cr)	
AGRO 269 Principles of Soil Management (3 cr)	
AGRO 477 Great Plains Field Pedology (4 cr)	
Production Systems Course ..... 3	
<i>Select one course from the following:</i>	
AGRO 204 Resource-Efficient Crop Management (3 cr)	
AGRO 435 Agroecology (3 cr)	
RNGE 340 Range Management & Improvement (3 cr)	
<i>Select one course from the following:</i> ..... 1-3	
NRES 496 Independent Study (1-3 cr)	
NRES 497 Career Experiences (1-3 cr)	
NRES 499 Thesis Research (3-6 cr)	
NRES 499H Honors Thesis (3-6 cr)	
<b>Habitat Management Option Electives</b> ..... 9	
<i>Select from: (at least 6 hrs must be 400 level)</i>	
AGRI 200 Intro to Pesticides & Their Use (2 cr)	
AGRO 315 Genetics (4 cr)	
BIOS 455 Great Plains Flora (4 cr)	
BIOS 471 Plant Taxonomy (4 cr)	
ENTO 115 Insect Biology & ENTO 116 Insect Identification (4 cr)	
NRES 270 Biological Invaders (3 cr)	
NRES 348 Wildlife Damage Management (3 cr)	
NRES 423 Integrated Resource Management (3 cr)	
NRES 492 Study Tours in Natural Resource Management (1-3 cr)	
<i>And/or any optional courses listed but not taken under the Natural Resources Core courses, Fisheries and Wildlife courses, or Option Requirements headings in this program.</i>	
<b>Free Electives</b> ..... 8	

## Law Enforcement Option

This option is designed for students considering careers in wildlife law enforcement. Completion of this program also provides excellent preparation for entry into law enforcement academies.

**NOTE:** 300- and 400-level Criminal Justice courses require permission of the department. Through special arrangements with the Criminal Justice Department, Fisheries and Wildlife students can gain that permission by contacting Karen Fulton in the Criminal Justice Department.

<b>Requirements</b> ..... 29	Hours
NRES 386 Vertebrate Zoology ..... 4	
Animal Course ..... 3-4	
<i>Select one course from the following:</i>	
BIOS 475 Ornithology (3 cr)	
NRES 464 Fisheries Biology (3 cr)	
NRES 474 Herpetology (4 cr)	
NRES 476 Mammalogy (4 cr)	
NRES 489 Ichthyology (4 cr)	
Plant Course ..... 3-4	
<i>Select one course from the following:</i>	
AGRO 440 Great Plains Ecosystems (3 cr)	
AGRO 442 Wildland Plants (3 cr)	
BIOS 455 Great Plains Flora (4 cr)	
NRES 310 Intro to Forest Management (4 cr)	
NRES 417 Agroforestry Systems in Sustainable Agriculture (3 cr)	
NRES 424 Forest Ecology (4 cr)	
Forest Systems Course ..... 3-4	
<i>Select one course from the following:</i>	
NRES 310 Intro to Forest Management (4 cr)	
AGRO 417 Agroforestry Systems in Sustainable Agriculture (3 cr)	
NRES 424 Forest Ecology (4 cr)	
Aquatic Systems Course ..... 3-4	
<i>Select one course from the following:</i>	
NRES 459 Limnology (4 cr)	
NRES 463 Fisheries Science (4 cr)	
NRES 468 Wetlands (4 cr)	
NRES 470 Lake & Reservoir Restoration (3 cr)	
<b>NOTE:</b> Students can also use a substitution/waiver form to count the following courses for this requirement: NRES 496 Lake & Reservoir Management, NRES 496 Stream Ecology, or NRES 496 Lake & Stream Restoration. ..... 3-4	
Soil Science Course ..... 3-4	
<i>Select one course from the following:</i>	
MSYM 354 Soil Conservation & Watershed Management (3 cr)	
AGRO 269 Principles of Soil Management (3 cr)	
AGRO 477 Great Plains Field Pedology (4 cr)	
Production Systems Course ..... 3	
<i>Select one course from the following:</i>	
AGRO 204 Resource-Efficient Crop Management (3 cr)	
AGRO 435 Agroecology (3 cr)	
RNGE 340 Range Management & Improvement (3 cr)	
<i>Select one course from the following:</i> ..... 1-3	
NRES 496 Independent Study (1-3 cr)	
NRES 497 Career Experiences (1-3 cr)	
NRES 499 Thesis Research (3-6 cr)	
NRES 499H Honors Thesis (3-6 cr)	
<b>Law Enforcement Option Electives</b> ..... 9	
<i>Select from: (at least 6 hrs must be 400 level)</i>	
AGRO 315 Genetics (4 cr)	
MNGT 360 Managing Behavior in Organizations (3 cr)	
MNGT 361 Personnel/Human Resource Management (3 cr)	
NRES 211 Intro to Conservation Biology (3 cr)	
NRES 388 Employment Seminar (1 cr)	
NRES 423 Integrated Resource Management (3 cr)	
NRES 459 Limnology (4 cr)	
NRES 492 Study Tours in Natural Resource Management (1-3 cr)	
NRES 496 Wildlife Disease (3 cr)	
POLS 210 Bureaucracy & the American Political System (3 cr)	
SOCI 209 Sociology of Crime (3 cr)	
SOCI 241 Rural Sociology (3 cr)	
SOCI 242 Urban Sociology (3 cr)	
SOCI 261 Conflict & Conflict Resolution (3 cr)	
SOCI 446 Environmental Sociology (3 cr)	
<i>And/or any optional courses listed but not taken under the Natural Resources Core courses, Fisheries and Wildlife courses, or Option Requirements headings in this program.</i>	
<b>Free Electives</b> ..... 8	

## Wildlife Damage Management Option

This option is designed for students considering careers in wildlife damage, wildlife consulting, Extension education, airport wildlife mitigation, or wildlife management. Completion of this program also provides excellent preparation for graduate study.

<b>Requirements</b> ..... 34	Hours
NRES 386 Vertebrate Zoology ..... 4	
Animal Course ..... 3-4	
<i>Select one course from the following:</i>	
BIOS 475 Ornithology (3 cr)	
NRES 474 Herpetology (4 cr)	
NRES 476 Mammalogy (4 cr)	
NRES 489 Ichthyology (4 cr)	
Plant Course ..... 3-4	
<i>Select one course from the following:</i>	
AGRO 204 Resource-Efficient Crop Management (3 cr)	
AGRO 442 Wildland Plants (3 cr)	
HORT 212 Landscape Plants I (3 cr)	
HORT 350 Basic Fruit Production (3 cr)	
HORT 362 Nursery Crop Production Management (4 cr)	
NRES 310 Intro to Forest Management (4 cr)	
NRES 424 Forest Ecology (4 cr)	
NRES 348 Wildlife Damage Management ..... 3	
NRES 448 Advanced Topics in Wildlife Damage Management ..... 2	
NRES 450 Biology of Wildlife Populations ..... 4	
<i>Select one course from:</i> ..... 3-4	
ASCI 250 Animal Management (3 cr)	
ASCI 271 Companion Animal Behavior (3 cr)	
BIOS 462 Animal Behavior (3 cr)	
BIOS 468 Field Animal Behavior (4 cr)	
<i>Select two courses from:</i> ..... 4-6	
AGRI 200 Intro to Pesticides & Their Use (2 cr)	
ASCI 370 Animal Welfare (3 cr)	
NRES 270 Biological Invaders (3 cr)	
NRES 300 Toxins in the Environment (2 cr)	
<b>NOTE:</b> Students may also do an independent study (NRES 496) with Dr. Scott Hgnstrom that incorporates pesticide safety certification. Consult your adviser.	
Management Course ..... 6	
<i>Select two courses from:</i>	
ALEC 102 Interpersonal Skills for Leadership (3 cr)	
COMM 283 Interpersonal Communication (3 cr)	
COMM 286 Business & Professional Communication (3 cr)	
ENTR 121 Intro to Entrepreneurial Management (3 cr)	
MNGT 320 Principles of Management (3 cr)	
MNGT 360 Managing Behavior in Organizations (3 cr)	
MNGT 361 Personnel/Human Resource Management (3 cr)	
POLS 210 Bureaucracy & the American Political System (3 cr)	
<i>Select one course from:</i> ..... 1-3	
NRES 496 Independent Study (1-3 cr)	
NRES 497 Career Experiences (1-3 cr)	
NRES 499 Thesis Research (3-6 cr)	
NRES 499H Honors Thesis (3-6 cr)	
<b>Wildlife Damage Management Option Electives</b> ..... 6	
<i>Select from: (must be 400 level)</i>	
AGRO 315 Genetics (4 cr)	
BIOS 462 Animal Behavior (3 cr)	
NRES 423 Integrated Resource Management (3 cr)	
NRES 492 Study Tours in Natural Resource Management (1-3 cr)	
NRES 496 Wildlife Disease (3 cr)	
POLS 210 Bureaucracy & the American Political System (3 cr)	
<i>And/or any optional 400-level courses listed but not taken under the Natural Resources Core courses, Fisheries and Wildlife courses, or Option Requirements headings in this program.</i>	
<b>Free Electives</b> ..... 6	

## Wildlife Disease Option

This option is designed for students considering careers in wildlife disease or public health. Completion of this program also provides excellent preparation for graduate study. Students interested in wildlife medicine or veterinary science should talk to their adviser regarding requirements for admission to the college of veterinary medicine. The fisheries and wildlife major, with the Wildlife Disease Option, could be used as a second major for students majoring in veterinary and biomedical sciences.

<b>Requirements.....</b>	<b>33</b>
NRES 386 Vertebrate Zoology .....	4
Animal Course .....	3-4
<i>Select one course from the following:</i>	
ASCI 250 Animal Management (3 cr)	
BIOS 475 Ornithology (3 cr)	
NRES 476 Mammalogy (4 cr)	
NRES 489 Ichthyology (4 cr)	
Plant Course .....	3-4
<i>Select one course from the following:</i>	
AGRO 440 Great Plains Ecosystems (3 cr)	
AGRO 442 Wildland Plants (3 cr)	
BIOS 455 Great Plains Flora (4 cr)	
NRES 310 Intro to Forest Management (4 cr)	
NRES 417 Agroforestry Systems (3 cr)	
NRES 424 Forest Ecology (4 cr)	
NRES 435 Agroecology (3 cr)	
RNGE 240 Forage Crop & Range Management (4 cr)	
Disease Course .....	3
VBMS 303 Principles & Prevention of Livestock Diseases (3 cr) <b>or</b> PLPT 475 Agricultural Biosecurity (3 cr)	
<b>NOTE: Students can also use a substitution/waiver form to count the following courses for this requirement: NRES 496 Wildlife Diseases.</b>	
NRES 450 Biology of Wildlife Populations .....	4
Anatomy and Physiology Course .....	4
<i>Select one course from the following:</i>	
ASCI 240 Anatomy & Physiology of Animals (4 cr)	
BIOS 213 Human Physiology & Lab (4 cr)	
BIOS 388 Comparative Anatomy of Vertebrates (4 cr)	
Microbiology Course .....	4
<i>Select one course from the following:</i>	
BIOS 111 Biology of Microorganisms (4 cr)	
BIOS 312 & 314 Fundamentals of Microbiology & Lab (4 cr)	
Parasitology Course .....	3-4
<i>Select one course from the following:</i>	
BIOS 385 Parasitology (4 cr)	
BIOS 487 Field Parasitology (4 cr)	
VBMS 416 & 416L Veterinary Entomology & Lab (3 cr)	
ENTO 300 Toxicology in the Environment .....	2
<i>Select one course from:</i>	
NRES 496 Independent Study (1-3 cr)	
NRES 497 Career Experiences (1-3 cr)	
NRES 499 Thesis Research (3-6 cr)	
NRES 499H Honors Thesis (3-6 cr)	
Wildlife Disease Option Electives .....	9
<i>Select from either Package A (suitable for pre-med or pre-vet students) or Package B to satisfy option electives.</i>	
<b>Package A</b>	
CHEM 251 & 253L Organic Chemistry I & Lab (4 cr)	
CHEM 252 & 253L Organic Chemistry II & Lab (4 cr)	
PHYS 142 Elementary General Physics II (5 cr)	
<b>Package B</b>	
Any courses listed under headings in this program.	
At least 6 hrs must be at the 400 level. Courses may include NRES 423 Integrated Resources Management (3 cr) and/or AGRO 315 Genetics (4 cr).	
<b>Free Electives .....</b>	<b>4</b>

## **Wildlife Ecology and Management Option**

This option is designed for students considering careers in wildlife biology, wildlife ecology, wildlife research, or wildlife management. Completion of this program also provides excellent preparation for graduate study.

This option was designed to meet the certification requirements of The Wildlife Society as an Associate Wildlife Biologist. Students should refer to The Wildlife Society's guidelines for certification during their academic career to keep current with any changes in these requirements. See [www.wildlife.org](http://www.wildlife.org) for more details.

	Hours
<b>Requirements.....</b>	<b>27</b>
NRES 386 Vertebrate Zoology.....	4
Terrestrial Vertebrate Animal Courses.....	7-8
Select two courses from the following:	
BIOS 475 Ornithology (3 cr)	
NRES 474 Herpetology (4 cr)	
NRES 476 Mammalogy (4 cr)	
Plant Course .....	3-4
Select one course from the following:	
AGRO 440 Great Plains Ecosystems (3 cr)	
AGRO 442 Wildland Plants (3 cr)	
BIOS 455 Great Plains Flora (4 cr)	
NRES 310 Intro to Forest Management (4 cr)	
NRES 417 Agroforestry Systems (3 cr)	
NRES 424 Forest Ecology (4 cr)	
NRES 435 Agroecology (3 cr)	
RNGE 240 Forage Crop & Range Management (4 cr)	
Plant ID or Taxonomy Course .....	3-4
Select one course from the following:	
AGRO 442 Wildland Plants (3 cr)	
BIOS 455 Great Plains Flora (4 cr)	
BIOS 471 Plant Taxonomy (4 cr)	
NRES 208 Applied Climate Sciences .....	3
NRES 450 Biology of Wildlife Populations.....	4
Additional Written Communication Course .....	3
Select one course from the following:	
ENGL 101, 150, 151, 254; JGEN 200, 300, or	
NEWS 498	
Select one course from:.....	1-3
NRES 496 Independent Study (1-3 cr)	
NRES 497 Career Experiences (1-3 cr)	
NRES 499 Thesis Research (3-6 cr)	
NRES 499H Honors Thesis (3-6 cr)	
<b>Wildlife Ecology and Management Option Electives..9</b>	
Select from: (at least 6 hrs must be 400 level)	
AGRI 200 Intro to Pesticides & Their Use (2 cr)	
AGRO 204 Resource-Efficient Crop Management (3 cr)	
AGRO 315 Genetics (4 cr)	
BIOS 206 General Genetics (4 cr)	
BIOS 373 Biopsychology (3 cr)	
BIOS 381 Invertebrate Zoology (4 cr)	
BIOS 454 Ecological Interactions (4 cr)	
BIOS 462 Animal Behavior (3 cr)	
BIOS 468 Field Animal Behavior (3 cr)	
BIOS 470 Prairie Ecology (4 cr)	
BIOS 472 Evolution (4 cr)	
BIOS 487 Field Parasitology (4 cr)	
BIOS 488 Natural History of the Invertebrates (4 cr)	
BIOS 497 Microbial Ecology (4 cr)	
CHEM 251 Organic Chemistry (3 cr)	
ENTO 402 & 402L Aquatic Insects & Lab (3 cr)	
ENTO 411 Field Entomology (4 cr)	
MNGT 360 Managing Behavior in Organizations (3 cr)	
MNGT 361 Personnel/Human Resource Management (3 cr)	
NRES 211 Intro to Conservation Biology (3 cr)	
NRES 270 Biological Invaders (3 cr)	
NRES 308 Biogeography (3 cr)	
NRES 348 Wildlife Damage Management (3 cr)	
NRES 388 Employment Seminar (1 cr)	
NRES 415 Water Resources Seminar (1 cr)	
NRES 423 Integrated Resource Management (3 cr)	
NRES 448 Advanced Topics in Wildlife Damage Management (2 cr)	
NRES 459 Limnology (4 cr)	
NRES 463 Fisheries Science (4 cr)	
NRES 464 Fisheries Biology (3 cr)	
NRES 468 Wetlands (4 cr)	
NRES 489 Ichthyology (4 cr)	
NRES 492 Study Tours in Natural Resource Management (1-3 cr)	
PHYS 142 Elementary General Physics II (5 cr)	
POL 210 Bureaucracy & the American Political System (3 cr)	
RNGE 444 Vegetation Analysis (3 cr)	
And/or any optional courses listed but not taken under the Natural Resources Core courses, Fisheries and Wildlife courses, or Option Requirements headings in this program.	
<b>Free Electives .....</b>	<b>10</b>

VBMS 303 Principles & Prevention of Livestock Diseases (3 cr)	Hours
NRES 408 Functional Histology (4 cr)	
<i>And/or any optional courses listed but not taken under the Natural Resources Core courses, Fisheries and Wildlife courses, or Option Requirements headings in this program.</i>	
Free Electives .....	10

## General Option

This option is designed for students considering careers in wildlife ecology and management, fisheries ecology and management, and habitat management. The general option allows students to build a diverse background through choice of electives. Because of the broad nature of this option, students are strongly encouraged to discuss selection of electives with their faculty adviser.

Requirements.....	24
Select one course from:.....	4
NRES 450 Biology of Wildlife Populations (4 cr)	
NRES 459 Limnology (4 cr)	
NRES 464 Fisheries Biology (4 cr)	
Select one course from:.....	3
NRES 208 Applied Climate Sciences (3 cr)	
NRES 281 Intro to Water Science (3 cr)	
Select one course from:.....	4
BIOS 381 Invertebrate Zoology (4 cr)	
BIOS 488 Natural History of the Invertebrates (4 cr)	
NRES 386 Vertebrate Zoology (4 cr)	
Animal Courses .....	6-8
Select two courses from the following:	
BIOS 475 Ornithology (3 cr)	
BIOS 487 Field Parasitology (4 cr)	
ENTO 402 & 402L Aquatic Insects & Lab (3 cr)	
ENTO 411 Field Entomology (4 cr)	
NRES 474 Herpetology (4 cr)	
NRES 476 Mammalogy (4 cr)	
NRES 489 Ichthyology (4 cr)	
Plant Courses .....	6-8
Select two courses from the following:	
AGRO 440 Great Plains Ecosystems (3 cr)	
AGRO 442 Wildland Plants (3 cr)	
BIOS 455 Great Plains Flora (4 cr)	
BIOS 473 Freshwater Algae (4 cr)	
NRES 310 Intro to Forest Management (4 cr)	
NRES 417 Agroforestry Systems (3 cr)	
NRES 424 Forest Ecology (4 cr)	
NRES 435 Agroecology (3 cr)	
RNGE 240 Forage Crop & Range Management (4 cr)	
Select one course from the following:.....	1-3
NRES 496 Independent Study (1-3 cr)	
NRES 497 Career Experiences (1-3 cr)	
NRES 499 Thesis Research (3-6 cr)	
NRES 499H Honors Thesis (3-6 cr)	
General Option Electives .....	12
Select from any optional courses listed but not taken under the Natural Resources Core courses, Fisheries and Wildlife courses, or Option Requirements for any other option in the fisheries and wildlife major. (At least 6 hours must be 400 level.)	
Free Electives .....	10

## Fisheries and Wildlife Minor

A minor in fisheries and wildlife consists of 18 hours of course work. Adviser for the minor will be assigned by the fisheries and wildlife major coordinator. Requirements are as follows:	Hours
Core.....	11
NRES 220 Principles of Ecology.....	3
NRES 311 Wildlife Ecology & Management.....	3
NRES 404 Forestry, Fisheries, & Wildlife Seminar....	1
Select one of the following:.....	4
NRES 433 Wildlife Management Techniques (4 cr)	
NRES 463 Fisheries Science (4 cr)	
NRES 310 Forest Management (4 cr)	

Electives.....	7
Select seven hours from the following:	
NRES 208, 211, 222, 270, 299, 310, 312, 323, 348, 350, 386, 392, 399, 417, 423, 424, 448, 450, 459, 463, 464, 468, 476, 489, 492, 496, 497, 499, 499H	

## Food Science and Technology

**Head:** Professor Rolando A. Flores, Department of Food Science and Technology, 143 Food Industry Complex

**Professors:** Benson, Bullerman, Cuppett, Hanna, Hutzkins, Jackson, Rupnow, Taylor, Wehling, Weller, Zeece

**Associate Professors:** Schlegel, Smith, Thippareddi

**Assistant Professors:** Peterson, Subbiah, Walter

**Coordinator for Undergraduate Research:** Cuppett

Food Science and Technology students find career opportunities with food processing firms, government agencies, and educational institutions. Types of positions available to food science and technology graduates include new product development, quality assurance, food plant management, food research, food marketing and sales, education, and extension.

The curriculum includes a balance of courses in food science, biological sciences, physical sciences, mathematics, and social sciences and humanities. Food science courses include food engineering, food analysis, food chemistry, food microbiology, nutrition, quality assurance and commodity processing courses. Students are encouraged to participate in an internship program that provides summer employment in the food industry.

## Requirements<sup>2</sup>

Hours	
College Integrative Course .....	3
AGRI 103 Intro to Agricultural & Natural Resource Systems.....	3
Natural Sciences.....	31-33
BIOC 321and 321L Elements of Biochemistry (3 cr) and Lab (1 cr) <b>or</b> BIOC 431 Biomolecules & Metabolism (3 cr) and 433 Biochemistry Lab (2 cr).....	4-5
BIOS 101 and 101L General Biology/Lab <b>or</b> BIOS 102 Cell Structure & Function .....	4
BIOS 312 Fundamentals of Microbiology .....	3
Biological Sciences elective.....	3-4
Select from any BIOS course except BIOS 203	
CHEM 109 General Chemistry I.....	4
CHEM 110 General Chemistry II.....	4
CHEM 251 Organic Chemistry <sup>3</sup> .....	3
CHEM 253 Organic Chemistry Lab.....	1
MSYM 109 and 109L Physical Principles in Agriculture (4 cr) and Lab (1 cr) <b>or</b> PHYS 151 Elements of Physics (4 cr) and 153 Elements of Physics Lab (1 cr) .....	5
Mathematics and Statistics.....	8-10
STAT 218 Intro to Statistics.....	3
<b>or</b> ECON 215 Statistics	
MATH 102 Trigonometry .....	2
MATH 104 Calculus for Managerial & Social Sciences (3 cr) <b>or</b> MATH 106 Analytic Geometry & Calculus (5 cr) <b>or</b> MATH 106B Calculus I for Biology & Medicine (5 cr) .....	3-5

<sup>2</sup> Students in Food Science and Technology may not take Food Science and Technology courses Pass/No Pass, except for Independent Study.

<sup>3</sup> Students interested in a career in research, or planning to seek an advanced degree should also take CHEM 252 and 254.

Communications.....	9
JGEN 200 or 300 Technical Communication .....	3
Oral Communication .....	3
Select from: COMM 109, 209, or 286	
Communication and Interpersonal Skills.....	3
Select from: ENGL 101, 150, 252, 253, 254; JGEN 120; ALEC 102; COMM 109, 209, 212, 286	

Economics, Humanities and Social Sciences .....	18
ECON 211 <b>or</b> ECON 212 <b>or</b> AEVN 141 .....	3
ACE Courses.....	12

Select one course each from ACE outcomes 5, 7, 8, and 9.	
Select one elective in this area.....	3
Food Science & Technology Requirements.....	42

Core Courses.....	12
FDST 101 Introductory Food Science.....	2
FDST 132 Practical Applications in Food Science .....	1
FDST 280 Contemporary Issues in Food Science .....	2
FDST 403 Food Quality Assurance .....	3
FDST 451 Food Science & Technology Seminar .....	1
FDST 460 <sup>4</sup> Food Product Development Concepts .....	3
Process Technology Courses.....	12
FDST 363 Heat & Mass Transfer .....	3
FDST 465 Food Engineering Unit Operations ..	3
Choose two of the following courses:	6

ASCI 310 Fresh Meats <b>or</b> ASCI 410 Processed Meats (3 cr)	
FDST 412 Cereal Technology (3 cr)	
FDST 429 Dairy Products Technology (3 cr)	
FDST 420 Fruit & Vegetable Technology (3 cr)	
FDST 455 & 455L Microbiology of Fermented Foods (2 cr) & Lab (1 cr)	

Food Chemistry.....	10
FDST 205 Food Composition & Analysis.....	3
FDST 448 Food Chemistry.....	3
FDST 449 Food Chemistry Lab .....	1
FDST 458 Advanced Food Analysis .....	3

Food Microbiology.....	5
FDST 405 Food Microbiology .....	3
FDST 406 Food Microbiology Lab .....	2

Nutrition.....	3
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Choose one of the following courses:	
ASCI 421 Advanced Animal Nutrition (3 cr)	
NUTR 455 Advanced Nutrition (3 cr)	

Technical Electives <sup>5</sup> .....	11-12
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Choose courses from the following areas:	
ACCT, AEVN (except 100), AGRO (except 110), ASCI (except 101), BIOC (except 101), BIOS, BLAW, BSAD (except 101), BSEN (except 100), CHEM (except 195), CHME (except 112), CSCE (except 101), ECON, FDST (except 372), FINA, HORT (352, 353, 354, 471), IMSE, MATH 107 or higher, MNGT, MRKT, MSYM, NUTR (except 150, 372), VBMS (except 101)	
Free Electives .....	4-9
Minimum Requirement for Graduation.....	128

## Food Science and Technology Minor

### 1. 12-Credit-Hour Minor

Requirements for the minor include a minimum of 12 credits in Food Science and Technology at the 300 level or above, including the following specified courses:

Core Courses.....	12
FDST 405 Food Microbiology (BIOS 445) .....	3
FDST 406 Food Microbiology Lab (BIOS 446) .....	2
FDST 448 Food Chemistry .....	3
FDST 449 Food Chemistry Lab .....	1
FDST 363 Heat & Mass Transfer (MSYM) <b>or</b> FDST 465 Food Engineering Unit Operations (MSYM) .....	3

<sup>4</sup> Students are encouraged to consider Sensory Evaluation (FDST 430) as one of the courses used to fulfill the technical electives.

## 2. 18-Credit-Hour Minor

Requirements for the minor include a minimum of 18 credits in Food Science and Technology, including a minimum of 6 hours at the 300 level or above. No more than 3 credits of FDST 396 can be applied to the minor.

Core Courses.....	Hours
FDST 101 Introductory Food Science (2 cr)	
or FDST 131 The Science of Food (CHEM, NUTR) (3 cr) .....	2-3
FDST 205 Food Composition & Analysis.....	3
FDST 280 Contemporary Issues in Food Science.....	2
Additional FDST courses.....	10-11

## Courses of Instruction (FDST)

**[ES][IS] 101. Introductory Food Science** (2 cr I) Lec 2. Food composition, safety, processing, packaging, labeling, product development, food marketing and related topics.

**107. Introduction to the Companion Animal Food Industry** (ASCI 107) (1 cr I) Lec 1. The companion animal food industry, products, processes, and career opportunities.

**[ES] 131. The Science of Food** (CHEM, NUTR 131) (3 cr) Lec 3. General scientific concepts in biology, chemistry, and physics using food as a model. What food is from both chemical and nutritional perspectives, and the fate of food from when it leaves the farm to when it becomes a part of the individual. Assists students in making intelligent decisions about many food related controversial issues (e.g., food irradiation, food additives, health foods).

**[ES] 131L. The Science of Food Lab** (1 cr I, II) Lab 3. Prereq: FDST 131 or parallel. Introduction to laboratory techniques: food chemistry, food biochemistry, food analysis, food safety microbiology, and food fermentation.

**132. Practical Applications in Food Science** (1 cr II) Lab 3. Prereq: Food science and technology major or permission. Food processing, preservation, nutrition, safety, quality, marketing, and related topics. Food processing procedures and equipment. Microbiological and chemical procedures.

**205. Food Composition and Analysis** (3 cr II) Lec 2, lab 3. Prereq: CHEM 109 and 110; FDST 101 or 131. Recommended parallel CHEM 251. Major components of foods, their structures, and their role in the functional and nutritional properties of foods. Chemical methods for the determination and characterization of major food components.

**[IS] 280. Contemporary Issues in Food Science** (2 cr II) Prereq: CHEM 109; FDST 101 or 131. Current issues in food science, food safety problems, the impact of biotechnology on food production and processing, organic foods, functional foods and other contemporary topics.

**301. Chemistry of Food** (2 cr II) Lec 2, rec 1. Prereq: CHEM 105 or 109. *FDST 301 will not count toward a FDST major.* Chemical reactions that occur during food processing and cooking; chemical reactions that can be of importance to diet, health and the culinary aspects of food.

**363. Heat and Mass Transfer** (MSYM 363) (3 cr I) Lec 2, rec 1. Prereq: MATH 104 or 106; MSYM 109 or PHYS 141 or 151. Fundamentals of food engineering including material and energy balances, fluid mechanics, heat transfer and mass transfer.

**372. Food Safety and Sanitation** (NUTR 372) (3 cr I) Lec 3. Prereq: One course in chemistry and one course in biological sciences. Various factors that result in food illness: food allergy, natural toxins, parasites, microbial and viral food borne infections and food borne intoxications. Students will assess hazards, identify critical control points and establish monitoring and system verification procedures.

**396. Independent Study in Food Science and Technology** (1-5 cr, max 12) Prereq: Permission.

Individual or group projects in research, literature review, or extension of course work under supervision and evaluation of a departmental faculty member.

**401/801. Teaching Applications of Food Science** (3 cr I) Prereq: BIOS 101 and CHEM 109. *FDST 401/801 will not count toward a FDST major or minor.*

Overview of the science of food and how food can be used in the classroom to enhance science education.

**403/803. Food Quality Assurance** (3 cr II) Prereq: FDST 205; STAT 218.

Quality related issues as they pertain to manufacturing, processing, and/or testing of foods, with a major emphasis on food regulations, statistical process control and Hazard Analysis of Critical Control Points (HACCP).

**405/805. Food Microbiology** (BIOS 445/845) (3 cr I) Lec 3. Prereq: BIOS 312; CHEM 251; BIOC 321; or permission.

Nature, physiology, and interactions of microorganisms in foods. Introduction to food-borne diseases, the effect of food processing systems on the microflora of foods, principles of food preservation, food spoilage, and foods produced by microorganisms. Food plant sanitation and criteria for establishing microbial standards for food products.

**406/806. Food Microbiology Laboratory** (BIOS 446/846) (2 cr I) Lab 6. Prereq: Parallel registration in FDST 405/805 or permission.

Laboratory study of the microorganisms in foods and the methods used to study them as discussed in FDST 405/805.

**412/812. Cereal Technology** (3 cr I) Lec 2, lab 3. Prereq: FDST 205. *Offered fall semester of odd-numbered calendar years.*

Chemistry and technology of the cereal grains. Post-harvest processing and utilization for food and feed. Current industrial processes and practices, and the theoretical basis for these operations.

**415/815. Molds and Mycotoxins in Food, Feed, and the Human Environment** (3 cr I) Lec 2, lab 3. Prereq: FDST 405/805/BIOS 445/845 and FDST 406/806/BIOS 446/846. *Offered fall semester of odd-numbered calendar years.*

Occurrence, growth, and mycotoxin production of molds in human foods, animal feeds, and the human environment. Spoilage, mycotoxin production conditions, toxicity, and pathological effects. Culture media, methods and techniques for enumerating and identifying molds, analytical methods for mycotoxins, and effects of food and feed processing on mycotoxin stability.

**419/819. Meat Investigations** (ASCI 419/819) (1-3 cr, max 3 I, II, III) Prereq: ASCI 210 or permission.

For course description, see ASCI 419/819.

**420/820. Fruit and Vegetable Technology** (3 cr I) Lec 2, lab 3. Prereq: FDST 205. *Offered fall semester of even-numbered calendar years.*

Harvesting and postharvest handling of fruit and vegetables, processing and safety issues, processes of ripening and/or maturation in fresh fruits and vegetables.

**425/825. Food Toxicology** (2 cr II) Lec 2. Prereq: FDST 405/805, BIOC 321, or equivalent, or permission. *Offered spring semester of odd-numbered calendar years.*

Toxic substances that may be found in foods with emphasis on bacterial toxins, mycotoxins, and naturally occurring toxicants of plants, animals, and seafood. Basic toxicological methodology and the effects of food processing and handling on food-borne toxicants.

**429/829. Dairy Products Technology** (3 cr II) Lec 2, lab 3.

Prereq: FDST 205. *Offered spring semester of odd-numbered calendar years.*

Physical, chemical, and microbiological properties of milk. Principles of milk processing and manufacture of cultured dairy products, cheeses, ice cream, and concentrated dairy products.

**430/830. Sensory Evaluation** (STAT 430/830) (3 cr I) Lec 2, lab 3. Prereq: Introductory course in statistics. *Offered fall semester of odd-numbered calendar years.*

Food evaluation using sensory techniques and statistical analysis.

**441/841. Functional Properties of Food** (NUTR 441/841) (3 cr) (UNL) Lec 2, lab 3. Prereq: NUTR 224, 245, and BIOC 321; or FDST 448.

Examination of the relationship of structure and functionality of ingredients in food systems.

**445/845. Experimental Foods** (NUTR 445/845) (3 cr) (UNL) Lec 1, lab 6. Prereq: NUTR 244 and 245; BIOC 321. For course description, see NUTR 445/845.

**448/848. Food Chemistry** (3 cr I) Lec 3. Prereq: FDST 205; CHEM 251; BIOC 321.

Molecular components of various foods and the reactions of these components during the processing of foods.

**449/849. Food Chemistry Laboratory** (1 cr I) Lab 3. Prereq: FDST 205; FDST 448/848 or parallel; BIOC 321. Experiments involving the isolation, purification, and characterization of the molecular components of foods.

**[IS] 451. Food Science and Technology Seminar** (1 cr II) Prereq: Permission.

Student presentations of food science literature and research.

**455/855. Microbiology of Fermented Foods** (2 cr I, II) Lec 2. Prereq: FDST 405/805. On-campus students must also register for FDST 455/855.

Physiology, biochemistry, and genetics of microorganisms important in food fermentation. How microorganisms are used in fermentation and the effects of processing and manufacturing conditions on production of fermented foods.

**455L/855L. Microbiology of Fermented Foods Laboratory** (1 cr II) Lab 3. Prereq: FDST 405/805 and parallel FDST 455/855. *Offered spring semester of even-numbered calendar years.*

**458/858. Advanced Food Analysis** (3 cr II) Lec 2, lab 3. Prereq: FDST 205, 448/848, and 449/849.

Theory and application of molecular and atomic spectroscopy, immunochemistry and thermal methods to the analysis of foods. Chemical separation techniques to the isolation of food constituents.

**(ACE 10) [IS] 460/860. Food Product Development Concepts<sup>1</sup>** (3 cr II) Lec 2, lab 3. Prereq: FDST 405/805 and 448/848.

Develop a commercially viable food product using chemical, microbiological and sensory analysis principles, and marketing and packaging sciences.

**465/865. Food Engineering Unit Operations** (MSYM 465/865) (3 cr II) Lec 2, lab 3. Prereq: FDST/MSYM 363.

Unit operations and their applications to food processing.

**470/870. Nutraceuticals and Functional Foods** (3 cr II) Lec 3. Prereq: BIOC 321 or BIOC/BIOS/CHEM 431/831. *FDST 470/870 is offered in odd calendar years.*

Evaluation of natural compounds impact on human health. Inflammation, cancer, heart disease, and the impact of gut microflora on health.

**490. Food Industry Experience** (1-3 cr, max 3 III) Prereq: Junior or senior standing and permission. Required seminars/discussions to be completed prior to the internship. At the completion of the internship, a written report of the experience and a seminar presentation of the same material is required. Obtain a working knowledge of the food industry and begin developing professional credentials.

**499H. Honors Thesis** (3-6 cr, max 6 I, II, III) Prereq: Admission to the University Honors Program and permission, AGRI 299H recommended. Conduct a scholarly research project and write a University Honors Program or undergraduate thesis.

**880. Advanced Food Science: Selected Topics** (2-8 cr) Lec 2.

Prereq: FDST 448/848 or equivalent. Topics offered on a rotating basis, in alternate years, as indicated:

**A. Food Carbohydrates** (2 cr I) Offered fall semester of even-numbered calendar years.

**E. Food Flavors** (2 cr II) Offered fall semester of even-numbered calendar years.

**L. Food Lipids** (2 cr I) Offered fall semester of odd-numbered calendar years.

**P. Food Proteins** (2 cr II) Offered spring semester of even-numbered calendar years.

**896. Independent Study in Food Science and Technology (1-5 cr)** Prereq: 12 hrs food science and technology or closely related areas or permission.

**899. Masters Thesis (1-10 cr)**

Refer to the Graduate Bulletin for 900-level courses.

## Food Technology for Companion Animals

**Coordinator:** Professor Randy Wehling, 241 Food Industry Complex

**Academic Advisers:** Karr-Lilenthal (animal science), Wehling (food science and technology)

Food Technology for Companion Animals is a cooperative program between the Department of Animal Science and the Department of Food Science and Technology. Students will be prepared for positions of responsibility in the pet food industry, one of the fastest growing industries in North America. Many pet foods are similar to human foods in how they are processed, but are designed to meet the specific nutritional needs of different companion animals. Graduates of this program will be uniquely prepared to find employment with manufacturers and providers of pet foods and related products, in areas such as research and new product development, processing technology, production management, and quality assurance.

Students build on a strong foundation in the basic sciences by completing extensive course work in food chemistry and analysis, food microbiology and safety, food engineering and processing, and quality assurance. These courses are coupled with courses in companion animal nutrition and management. This curriculum also fits well for students in pre-professional programs, especially those considering a professional program in veterinary medicine.

### Requirements

	Hours
<b>College Integrative Course</b> .....	<b>3</b>
AGRI 103 Intro to Agriculture & Natural Resources Systems .....	3
<b>Natural Sciences</b> .....	<b>32</b>
BIOC 321 & 321L Elements of Biochemistry (3 cr) & Lab (1 cr) .....	4
BIOS 102 Cell Structure & Function .....	4
BIOS 103 Organismic Biology .....	4
BIOS 312 Fundamentals of Microbiology .....	3
CHEM 109 General Chemistry I .....	4
CHEM 110 General Chemistry II .....	4
CHEM 251 Organic Chemistry <sup>4</sup> .....	3
CHEM 253 Organic Chemistry Lab .....	1
MSYM 109 & 109L Physical Principles in Agriculture (4 cr) & Lab (1 cr) .....	5
or PHYS 151 Elements of Physics (4 cr) and PHYS 153 Elements of Physics Lab (1 cr) or PHYS 141 Elementary General Physics I (5 cr) <sup>5</sup> .....	
<b>Mathematics and Statistics</b> .....	<b>8-10</b>
STAT 218 Intro to Statistics or ECON 215 Statistics .....	3
MATH 102 Trigonometry .....	2
MATH 104 Calculus for Managerial & Social Sciences (3 cr) or MATH 106 Analytic Geometry & Calculus I (5 cr) .....	3-5

<sup>5</sup> The one semester comprehensive courses MSYM 109 and 109L, or PHYS 151 and 153, are recommended. Students applying to post-graduate professional programs that require a two semester physics sequence may use PHYS 141 to fulfill the physics requirement for the degree.

<b>Communications</b> .....	<b>9</b>
JGEN 200 or 300 Technical Communications .....	3
Oral Communication .....	3
Select from: COMM 109, 209, or 286	
Communication and Interpersonal Skills .....	3
Select from: ENGL 101, 150, 151, 252, 253, 254; JGEN 120; ALEC 102; COMM 109, 209, 212, or 286	
<b>Economics, Humanities and Social Sciences</b> .....	<b>15</b>
ECON 211 or ECON 212 or AECN 141 .....	3
ACE Courses .....	12
Select one course each from ACE outcomes 5, 7, 8, and 9.	
<b>Technology Requirements</b> .....	<b>49-52</b>
FDST/ASCI 107 Intro to the Companion Animal Food Industry .....	1
FDST 101 Introductory Food Science (2 cr) or ASCI 100 Fundamentals of Animal Biology & Industry (4 cr) .....	2-4
Core Courses .....	7
FDST 403 Quality Assurance .....	3
FDST 451 Food Science & Technology Seminar or ASCI 491 Animal Science Seminar .....	1
FDST 460 Concepts of Food Product Development or ASCI 486 Animal Biological Systems .....	3
Process Technology .....	11-12
FDST 363 Heat & Mass Transfer .....	3
FDST 465 Food Engineering Unit Operations ..	3
ASCI 210 Animal Products .....	3
FDST 412 Cereal Technology (3 cr) or AGRO 437 Animal, Food & Industrial Uses of Grain (2 cr) .....	2-3
Food Chemistry .....	10
FDST 205 Food Composition & Analysis .....	3
FDST 448 Food Chemistry .....	3
FDST 449 Food Chemistry Lab .....	1
FDST 458 Advanced Food Analysis .....	3
Food Microbiology .....	5
FDST 405 Food Microbiology .....	3
FDST 406 Food Microbiology Lab .....	2
Animal Management and Nutrition .....	13
ASCI 240 Anatomy & Physiology of Domestic Animals .....	4
ASCI 251 Intro to Companion Animals .....	3
ASCI 320 Animal Nutrition & Feeding .....	3
ASCI 321 Companion Animal Nutrition .....	3
<b>Electives</b> .....	<b>7-12</b>
<b>Minimum Requirement for Graduation</b> .....	<b>128</b>

## Forensic Science

**Coordinator:** Assistant Professor David Carter, 616 Hardin Hall

Forensic Science includes any science that is conducted for use in the legal system. The need for science in the courtroom has greatly increased as a result of legal rulings and the positioning of forensic science in popular culture. The Forensic Science Degree Program provides students with an education in the use of science, mathematics, and statistics in legal proceedings. There are two options of study: Forensic Biology and Crime Scene Investigation.

### Requirements

	Hours
<b>College Integrative Course</b> .....	<b>6</b>
AGRI/NRES 103 Intro to Agriculture & Natural Resources Systems .....	3
<b>Natural Sciences</b> .....	<b>32</b>
BIOC 321 & 321L Elements of Biochemistry (3 cr) and Lab (1 cr) .....	4
BIOS 102 Cell Structure & Function .....	4
BIOS 103 Organismic Biology .....	4
BIOS 312 Fundamentals of Microbiology .....	3
CHEM 109 General Chemistry I .....	4
CHEM 110 General Chemistry II .....	4
CHEM 251 Organic Chemistry <sup>4</sup> .....	3
CHEM 253 Organic Chemistry Lab .....	1
MSYM 109 & 109L Physical Principles in Agriculture (4 cr) & Lab (1 cr) .....	5
or PHYS 151 Elements of Physics (4 cr) and PHYS 153 Elements of Physics Lab (1 cr) or PHYS 141 Elementary General Physics I (5 cr) <sup>5</sup> .....	
<b>Mathematics and Statistics</b> .....	<b>8-10</b>
STAT 218 Intro to Statistics or ECON 215 Statistics .....	3
MATH 102 Trigonometry .....	2
MATH 104 Calculus for Managerial & Social Sciences (3 cr) or MATH 106 Analytic Geometry & Calculus I (5 cr) .....	3-5

	Hours
<b>College Integrative Course</b> .....	<b>6</b>
AGRI/NRES 103 Intro to Agriculture & Natural Resources Systems .....	3
FORS 485 Current Issues in Forensic Science capstone .....	3

	Hours
<b>College Integrative Course</b> .....	<b>6</b>
AGRI/NRES 103 Intro to Agriculture & Natural Resources Systems .....	3
FORS 485 Current Issues in Forensic Science capstone .....	3

<b>Natural Sciences Requirements</b> .....	<b>30</b>
CASNR Approved Life Sciences .....	4
CHEM 109 General Chemistry I .....	4
CHEM 110 General Chemistry II .....	4
CHEM 251 Organic Chemistry I (3 cr) and CHEM 253 Organic Chemistry I Lab (1 cr) .....	4
CHEM 252 Organic Chemistry II (3 cr) and CHEM 254 Organic Chemistry II Lab (1 cr) .....	4
PHYS 141 Elementary General Physics I .....	5
PHYS 142 Elementary General Physics II .....	5
<b>Forensic Science Core Requirements</b> .....	<b>14</b>
FORS 120 Intro to Forensic Science .....	3
FORS 120L Intro to Forensic Science Lab .....	1
FORS 200 Forensic Science Seminar .....	1
CRIM 101 Survey of Criminal Justice .....	3
CRIM 203 Police & Society .....	3
CRIM 211 Criminal Court System .....	3
<b>Mathematics and Statistics</b> .....	<b>8</b>
MATH 106 Analytical Geometry & Calculus I .....	5
STAT 218 Intro to Statistics .....	3
<b>Communication</b> .....	<b>6</b>
Written Communication .....	3
Select from: ENGL 150, 151, 254; JGEN 120, 200, 300	
Communications and Interpersonal Skills .....	3
Select from: ENGL 101, 150, 151, 252, 253, 254; ALEC 102; JGEN 120, 200, 300; COMM 109, 209, 212, 286	
<b>Economics, Humanities and Social Sciences</b> .....	<b>18</b>
ECON 211 or ECON 212 or AECN 141 .....	3
ACE Courses .....	12
Select one course each from ACE outcomes 5, 7, 8, and 9.	
Select one elective in this area .....	3
<b>Total Major Requirements</b> .....	<b>82</b>
<b>Forensic Science Laboratory Requirements</b> .....	<b>8</b>
<b>Option Requirements</b> .....	<b>19-23</b>
<b>Option Electives</b> .....	<b>8</b>
<b>Free Electives</b> .....	<b>7-11</b>
<b>Total Requirements for Graduation</b> .....	<b>128</b>

## Forensic Biology

The forensic biology option is designed for students interested in a laboratory-based career focusing on the analysis of forensically important biological materials. Students will learn basic biological techniques and be prepared for graduate study or professional careers in academia, research, industry, law or medicine.

<b>Hours</b>	
<b>Forensic Biology Laboratory Requirements</b> .....	<b>8</b>
FORS 401 Forensic Biology (3 cr) and FORS 401L Forensic Biology Lab (1 cr) .....	4
<b>Select one:</b> .....	1-6
FORS 495 Internship in Forensic Science (1-4 cr)	
FORS 496 Independent Study in Forensic Science (1-6 cr)	
NRES 445 Human Remains in Forensic Science (4 cr)	
NRES 446 Pollen Analysis for Behavioral, Biological, & Forensic Science (4 cr)	
<b>Forensic Biology Option Requirements</b> .....	<b>20-23</b>
AGRO 315 Genetics (4 cr) or BIOS 205 and BIOS 206 Genetics (6 cr) .....	4-6
BIOS 321 & 321L Elements of Biochemistry (3 cr) and Lab (1 cr) .....	4
BIOS 102 Cell Structure & Function .....	4
BIOS 213 & 213L Human Physiology (3 cr) and Lab (1 cr) or BIOS 214 Human Anatomy (5 cr) .....	4-5
BIOS 312 & 314 Fundamentals of Microbiology (3 cr) and Lab (1 cr) .....	4
<b>Forensic Biology Option Electives (examples below)</b> .....	<b>8</b>
AGRO 455 Soil Chemistry & Mineralogy .....	3
AGRO 460 Soil Microbiology .....	3
BIOC 431 Biomolecules & Metabolism .....	4
BIOS 205 Genetics, Molecular & Cellular Biology Lab .....	2
CHEM 221 Elementary Quantitative Analysis .....	4
CHEM 441 Inorganic Chemistry (3 cr) & CHEM 443 Inorganic Chemistry Lab (2 cr) .....	5
CRIM 301 Philosophy of Criminal Justice .....	3
CRIM 331 Criminology .....	3
CRIM 351 Criminal Procedure .....	3

ENTO 108 Insects, Science, & Society or ENTO 115 Insect Biology.....	3
ENTO 116 Insect Identification.....	1
ENTO 400 Biology & Classification of Insects .....	4
ENTO 402 Aquatic Insects .....	2
ENTO 402L Aquatic Insects Lab .....	1
ENTO 406 Insect Ecology .....	3
ENTO 414 Forensic Entomology .....	3
ENTO 415 Medical Entomology .....	3
FORS 300 Forensic Taphonomy .....	3
FORS 499H Honors Thesis.....	1-6
NRES 220 Principles of Ecology.....	4
NRES 222 Principles of Ecology Lab .....	1
NRES 312 Intro to Geospatial Sciences .....	3
PLPT 270 Biological Invaders .....	3
PLPT 370 Biology of Fungi.....	3
VBMS 410 General Pharmacology & Toxicology .....	4
<b>NOTE: Student should consult with adviser for other possible course electives.</b>	

## Crime Scene Investigation

The crime scene investigation option prepares students for a career in law enforcement and investigation. This option emphasizes broad understandings of forensic science as applied to the acquisition, preservation, interpretation, and presentation of evidence. This option prepares students for graduate study in anthropology, entomology, forensic science, and related areas. Additionally, this option will prepare students for professional programs in law.

### Hours

<b>Crime Scene Investigation Laboratory Requirements...</b>	<b>8</b>
FORS 400 Crime Scene Investigation (3 cr) and FORS 400L Crime Scene Investigation Lab (1 cr) .....	4
NRES 446 Pollen Analysis for Behavioral, Biological, & Forensic Science .....	4
<b>Crime Scene Investigation Option Requirements....</b>	<b>19</b>
AGRO 153 Soil Resources .....	4
BIOS 214 Human anatomy .....	5
ENTO 108 Insects, Science, & Society or ENTO 115 Insect Biology .....	3
ENTO 116 Insect Identification .....	1
ENTO 414 Forensic Entomology .....	3
FORS 300 Forensic Taphonomy .....	3

### Crime Scene Investigation Option Electives

<b>(examples below) .....</b>	<b>8</b>
AGRO 455 Soil Chemistry & Mineralogy .....	3
AGRO 460 Soil Microbiology.....	3
BIOS 213 Human Physiology (3 cr) and BIOS 213L Human Physiology Lab (1 cr) .....	4
ENTO 400 Biology & Classification of Insects .....	4
ENTO 402 Aquatic Insects .....	2
ENTO 402L Aquatic Insects Lab .....	1
ENTO 406 Insect Ecology .....	3
ENTO 415 Medical Entomology .....	3
FORS 495 Internship in Forensic Science.....	1-4
FORS 496 Independent Study in Forensic Science...1-6	
FORS 499H Honors Thesis.....	1-6
METR 200 Weather & Climate.....	4
NRES 220 Principles of Ecology.....	3
NRES 222 Principles of Ecology Lab .....	1
NRES 312 Intro to Geospatial Sciences .....	3
NRES 445 Human Remains in Forensic Science.....	4
PLPT 270 Biological Invaders .....	3
PLPT 370 Biology of Fungi.....	3
PLPT 475 Agricultural Biosecurity .....	3
PSYC 288 Psychology of Social Behavior .....	3
VBMS 410 General Pharmacology & Toxicology.....	4

**NOTE: Student should consult with adviser for other possible course electives.**

## Courses of Instruction (FORS)

**120. Introduction to Forensic Science (3 cr I) Lec 3. Register for FORS 120L as an optional 1 credit hour lab.**

The United States legal system, taphonomy, criminalistics, forensic engineering, digital forensics, and behavioral sciences.

**120L. Introduction to Forensic Science Laboratory (1 cr I) Lab 2.** Prereq: Parallel FORS 120.  
Practical aspects of forensic sciences. Forensic entomology, soil science, blood spatter, fingerprints, trace evidence, odontology, footprint analysis, palynology, and osteology.

**200. Forensic Science Seminar (1 cr II) Lec 1.** Prereq: FORS 120. Current issues in research, ethics, and professional practice related to forensic science.

**300. Forensic Taphonomy (3 cr II) Lec 3.** Prereq: BIOS 103; CHEM 110; FORS 200.  
Forensic application of processes associated with decomposition and preservation of organic materials.

**400. Crime Scene Investigation (3 cr II) Lec 3.** Prereq: Junior standing and permission; parallel FORS 400L.  
Identification, collection, preservation, presentation of physical evidence. Ethics and chain of custody.

**400L. Crime Scene Investigation Laboratory (1 cr II) Lab 3.** Prereq: Parallel FORS 400. *FORS 400L is a lab for credit to go with FORS 400.*

**401. Forensic Biology (3 cr II) Lec 3.** Prereq: Junior standing and permission; parallel FORS 401L.  
Ethics, quality assurance, quality control, analysis, and interpretation of biological evidence for the legal system.

**401. Forensic Biology Laboratory (1 cr II) Lab 3.** Prereq: Parallel FORS 401. *FORS 401L is a lab for credit to go with FORS 401.*

**414/814. Forensic Entomology (ENTO 414/814) (3 cr II) Lec 3.** Prereq: Introductory course in ENTO.  
For course description, see ENTO 414/814.

**445/845. Human Remains in Forensic Science (NRES 445/845) (4 cr I) Lec 2, lab 2.** Prereq: FORS 120.  
For course description, see NRES 445/845.

**446/846. Pollen Analysis for Behavioral, Biological, and Forensic Science (NRES 446/846) (4 cr I) Lec 2, lab 2.** Prereq: BIOS 109 and FORS 120.  
For course description, see NRES 446/846.

**(ACE 10) 485. Current Issues in Forensic Science (3 cr II) Lec 3.** Prereq: Senior standing and completion of FORS core requirements.  
Application and integration of principles to address emerging issues involving forensic science.

**495. Internship in Forensic Science (1-4 cr, max 4) Fld.** Prereq: Sophomore standing and permission. *FORS 495 requires a structured practical experience under the supervision of a forensic science professional.*

**496. Independent Study in Forensic Science (1-6 cr, max 6) Ind.** Prereq: Sophomore standing and permission. *FORS 496 requires an individual or group project in research or literature review, or extension of course work.*

**498/898. Special Topics in Forensic Science (1-6 cr, max 12 I, II)**  
Lec. Prereq: 3 hrs FORS or equivalent.  
Current issues in forensic science.

**499H. Honors Thesis (1-6 cr, max 6) Ind.** Prereq: Good standing in the University Honors Program and permission. AGRI 299H recommended. *FORS 499H is 'Letter grade only.'*  
Conduct a research project and write a University Honors Program or undergraduate thesis.

## Grassland Ecology and Management

**Coordinator: Professor Walter H. Schacht, Department of Agronomy and Horticulture, 347 Keim Hall**

**Curriculum Committee: Stubbendieck, Wedin**

The grassland ecology and management degree program is an integration of disciplines involved in the study, conservation, and utilization of grasslands. Students in this degree program develop a strong background in the plant and physical

sciences in preparation for studying the ecology and management of grasslands in upper level course work. A foundation of the degree program is multiple use, emphasizing integrated grassland management for water, wildlife, forage, recreation, and aesthetics. Students will learn through course work, seminars, capstone experiences, and optional internships with state and federal agencies, research organizations, and private industry.

The grassland ecology and management degree is designed for students whose career interests involve management of grassland habitats/ecosystems. Graduates of the degree program will likely pursue careers as managers of grassland resources on private and public land with specialization in habitat management, grassland restoration/monitoring, or grassland management. Specifically, this curriculum prepares students for employment with environmental consulting firms, natural resources districts, public land management agencies, land use planning agencies, and federal and state wildlife divisions. The curriculum meets the civil service requirements of the federal government for range conservationist positions in such agencies as the Natural Resources Conservation Service, Bureau of Land Management, and Forest Service. Further, the breadth of the curriculum prepares students for postgraduate education in most disciplines related to natural resource sciences.

## Requirements

	Hours
<b>College Integrative Courses.....</b>	<b>6</b>
NRES/AGRI 103 Intro to Agricultural & Natural Resource Systems .....	3
RNGE 445 Livestock Management on Range & Pasture or NRES 423 Integrated Resource Management .....	3
<b>Natural Resources.....</b>	<b>17</b>
NRES 211 Intro to Conservation Biology or NRES 311 Wildlife Ecology & Management .....	3
NRES 220 Principles of Ecology .....	3
NRES 281 Intro to Water Science .....	3
SOIL 153 Soil Resources .....	4
SOIL 477 Great Plains Field Pedology .....	4
<b>Natural Sciences.....</b>	<b>28</b>
CASN 445 approved life sciences .....	16
AGRO 315 Genetics .....	4
AGRO 325 Introductory Plant Physiology .....	4
BIOS 101 & 101L Intro to Biology & Lab .....	4
BIOS 109 Botany .....	4
<b>Physical Sciences.....</b>	<b>12</b>
CHEM 105 & 106 Chemistry in Context I & II (8 cr) or CHEM 109 & 110 General Chemistry I & II (8 cr) .....	8
MSYM 109 Physical Principles in Agriculture .....	4
<b>Grassland Resources.....</b>	<b>13</b>
RNGE 240 Forage Crop & Range Management .....	4
RNGE 340 Range Management & Improvement .....	3
RNGE 440 Great Plains Ecosystem .....	3
RNGE 442 Wildland Plants .....	3
<b>Inventory and Policy.....</b>	<b>9-10</b>
GEOG 412 Geographic Information Systems (4 cr) or NRES 312 Intro to Geospatial Information Sciences (3 cr) .....	3-4
NRES 323 Natural Resources Policy .....	3
RNGE 444 Vegetation Analysis .....	3
<b>Mathematics and Statistics.....</b>	<b>5-8</b>
Select one course beyond college algebra.....	2-5
MATH 102 Trigonometry (2 cr)	
MATH 103 College Algebra & Trigonometry (5 cr) <i>Only 2 hrs of MATH 103 will count toward this requirement.</i>	
MATH 104 Calculus for Managerial & Social Sciences (3 cr)	
MATH 106 Analytical Geometry & Calculus (5 cr)	

NOTE: Proficiency at the college algebra level must be demonstrated either by a placement exam or through course work. If MATH 103 is taken, only 2 cr hrs can be counted toward this requirement.	
STAT 218 Intro to Statistics.....	3
<b>Communication.....</b>	<b>9</b>
Written Communication.....	3
Select from: ENGL 150, 151, 254; JGEN 120, 200 or 300	
Oral Communication.....	3
Select from: COMM 109, 209, or 286	
Communication and Interpersonal Skills Electives ... 3	
Select from: ENGL 101, 150, 151, 252, 253, 254; ALEC 102; JGEN 120, 200, 300; COMM 109, 209, 212, or 286	
<b>Economics, Humanities and Social Sciences .....</b>	<b>21</b>
AECN 141 Intro to the Economics of Agriculture .....	3
AECN 265 Resource Economics.....	3
AECN 388 Ethics in Agriculture & Natural Resources .....	3
ACE Courses.....	12
Select one course each from ACE outcomes 5, 7, 8, and 9.	
<b>Free Electives .....</b>	<b>19-23</b>
<b>Total Credit Hours for Graduation.....</b>	<b>128</b>

## Grassland Ecology and Management Minor

	Hours
<b>Grassland Ecology &amp; Management Minor .....</b>	<b>18-20</b>
RNGE 240 Forage Crop & Range Management .....	4
RNGE 340 Range Management & Improvement .....	3
RNGE 440 Great Plains Ecosystem.....	3
SOIL 153 Soil Resources.....	4
Select two of the following:.....	4-6
RNGE 242 North American Range Plants (1-3 cr)	
RNGE 442 Wildland Plants (3 cr)	
RNGE 444 Vegetation Analysis (3 cr)	
RNGE 445 Livestock Management on Range & Pasture (3 cr)	
RNGE 496 Independent Study (1-3 cr)	

## Courses of Instruction (RNGE)

**[IS] 240. Forage Crop and Range Management** (AGRO 240) (4 cr I, II) Lec 3, lab 2. Prereq: AGRO 101 or BIOS 109 or equivalent. For course description, see AGRO 240.

**242. North American Wildland Plants** (AGRO, HORT 242) (1 cr, max 4 I, II) Lec 3. Prereq: Permission, AGRO/RNGE 240 recommended. For course description, see AGRO 242.

**295. Internship in Agronomy** (AGRO, SOIL 295) (1-5 cr, max 12 I, II, III) For course description, see AGRO 295.

**340. Range Management and Improvement** (AGRO 340) (3 cr II) Lec 3. Prereq: AGRO 240. For course description, see AGRO 340.

**440. Great Plains Ecosystem** (AGRO 440/840) (3 cr II) Lec 3. Prereq: Junior standing. BIOS 101 and 101L, or equivalent, recommended. For course description, see AGRO 440/840.

**441. Perennial Plant Function, Growth, and Development** (AGRO, HORT 441/841) (3 cr II) Lec 3. Prereq: AGRO 325 or equivalent. For course description, see AGRO 441/841.

**442. Wildland Plants** (AGRO 442/842) (3 cr I) Lec 2, lab 4. Prereq: Junior standing. BIOS 101 and 101L, or equivalent, recommended. For course description, see AGRO 442/842.

**444. Vegetation Analysis** (AGRO 444/844) (3 cr I) Lec 2, lab 4. Prereq: Junior standing. BIOS 101 and 101L, or equivalent, recommended. For course description, see AGRO 444/844.

[IS] 445. Livestock Management on Range and Pasture <sup>1</sup>	
(AGRO 445/845, ASCI 451/851) (3 cr I) Lec 2. Prereq: ASCI 250 and AGRO 240 or 340; AECN 201 recommended. For course description, see AGRO 445/845.	
<b>495. Grasslands Seminar</b> (AGRO, ENTO, GRAS, HORT, NRES, SOIL 495) (1-2 cr, max 4 cr I) Prereq: Junior standing. For course description, see GRAS 495.	
<b>496. Independent Study</b> (AGRO 496/896, SOIL 496) (1-6 cr, max 6 I, II, III) For course description, see AGRO 496/896.	
<b>499H. Honors Thesis</b> (AGRO, SOIL 499H) (3-6 cr, max 6 I, II, III) Prereq: Admission to the University Honors Program and permission, AGRI 299H recommended. For course description, see AGRO 499H.	

## Grazing Livestock Systems

**Director:** Professor Martin A. Massengale, Center for Grassland Studies, 304 Biochemistry Hall

**Faculty Coordinating Committee:** Schacht (agronomy); Brink, Reiling (animal science); Mark (agricultural economics)

The Grazing Livestock Systems degree program is designed for students whose career interests involve the production of livestock utilizing forage, pasture, and range as the principal feed resources. Successful graduates of the degree program will likely pursue careers as managers of livestock farms or ranches, or in public or private sector positions that assist in the management, education and support of grazing livestock decision making.

Students in this degree program will intensively study principles of forage and range sciences, animal sciences, and management economics. Students will further learn through seminars, capstone experiences and a planned internship. Integration of disciplines will be emphasized in developing production systems that will optimize economic returns consistent with management objectives, resource availability, and environmental health. Sufficient flexibility is built into the program of study to permit specialization in ruminant livestock, forage and range management, or economics, while preserving the systems orientation of the degree program. The program's Web site is [gls.unl.edu](http://gls.unl.edu).

## Requirements

	Hours
<b>College Integrative Courses.....</b>	<b>6</b>
AGRI/NRES 103 Intro to Agricultural & Natural Resource Systems .....	3
ASCI 451/AGRO/RNGE 445 Livestock Management on Range & Pasture ( <i>capstone</i> ) .....	3
<b>Mathematics and Statistics (beyond college algebra) ..5</b>	
Select from: MATH 102, 104, 106 and STAT 218.	
<b>NOTE:</b> Proficiency at the college algebra level must be demonstrated either by a placement exam or through course work. If MATH 103 is taken, only 2 cr hrs can be counted toward this requirement.	
<b>Communications .....</b>	<b>9</b>
Written Communication.....	3
Select from: ENGL 150, 151, 254; JGEN 120, 200, 300	
Oral Communication .....	3
Select from: COMM 109, 209, 286; ALEC 305	
Communications Elective .....	3
Select from: Any communication course above or ALEC 202	
<b>Natural Sciences.....</b>	<b>20-24</b>
AGRO 315 Genetics .....	4
BIOS 101 & 101L General Biology & Lab (4 cr) or BIOS 103 Organismic Biology (4 cr) ( <i>preferred</i> ) .....	4
Select one of the following: .....	8-12
CHEM 105 & 106 Chemistry in Context I & II (8 hrs)	
CHEM 109 & 110 General Chemistry I & II and CHEM 251 & 253 Organic Chemistry I & Lab (12 hrs)	
MSYM 109 Physical Principles of Agriculture or PHYS 151 Elements of Physics.....	4
<b>Economics, Humanities and Social Sciences .....</b>	<b>18</b>
ECON 211 or ECON 212 or AECN 141 .....	3
ACE Courses.....	12
Select one course each from ACE outcomes 5, 7, 8, and 9.	
Select one elective in this area.....	3
<b>Agricultural Sciences.....</b>	<b>42</b>
ASCI 100 Fundamentals of Animal Biology .....	4
ASCI 240 Anatomy & Physiology of Domestic Animals .....	4
ASCI 320 Animal Nutrition & Feeding .....	3
ASCI 330 Animal Breeding or ASCI 341 Physiology & Management of Reproduction .....	4
AGRO/SOIL 153 Soil Resources .....	4
AGRO/RNGE 240 Forage Crop & Range Management .....	4
Management .....	4
AGRO/RNGE 340 Range Management & Improvement .....	3
AGRO/RNGE 440 Great Plains Ecosystems .....	3
AECN 201 Farm & Ranch Management .....	4
AECN 325 Marketing of Agricultural Commodities .....	3
AECN Electives .....	6
Select one course in two of the following three blocks:	
Farm Management & Marketing	
AECN 301 Farm Accounting, Analysis & Tax Management	
AECN 401 Advanced Farm Management & Linear Programming	
AECN 435 Advanced Agricultural Marketing Management	
Agricultural Financial Analysis	
AECN 301 Farm Accounting, Analysis & Tax Management	
AECN 452 Agricultural Finance	
AECN 453 Agricultural & Rural Property Appraisal I	
Natural Resources, Policy, & Legal Environment	
AECN 256 Legal Aspects in Agriculture	
AECN 265 Resource & Environmental Economics I	
AECN 357 Natural Resources & Environmental Law	
AECN 445 Agricultural & Natural Resource Policy Analysis	
AECN 465 Resource & Environmental Economics II	
Internship .....	4
GRAS 490 Grazing Livestock Systems Internship ( <i>planning</i> ) .....	1
GRAS 490 Grazing Livestock Systems Internship .....	3
<b>Supporting Courses*</b> .....	<b>12</b>
Select from:	
ACCT 201 Introductory Accounting I	
ACCT 202 Introductory Accounting II	
any AECN from above electives	
AECN 399 Independent Study	
AGRO 204 Resource-Efficient Crop Management	
AGRO 325 Introductory Plant Physiology	
AGRO 435 Agroecology	
AGRO/RNGE 442 Wildland Plants	
AGRO/RNGE 444 Vegetation Analysis	
AGRO/RNGE 496 Independent Study	
AGRO/SOIL 477 Great Plains Field Pedology	
ASCI 210 Animal Products	
ASCI 330 Animal Breeding	
ASCI 341 Physiology & Management of Reproduction	
ASCI 399 Independent Study	
ASCI 422 Advanced Feeding & Feed Formulation	
ASCI 453 Dairy Management	
ASCI 455 Beef Cow/Calf Management	
ASCI 457 Beef Feedlot Management	
ASCI 485 Animal Systems Analysis	
ASCI 490A Beef Feedlot Management Internship	

NRES 211 Intro to Conservation Biology	Hours
NRES 220 Principles of Ecology	
NRES 311 Wildlife Ecology & Management	
NRES 323 Natural Resources Policy	
NRES 423 Integrated Resources Management	
VBMS 303 Principles & Prevention of Livestock Diseases	

Free Electives .....	8-12
Total for Graduation.....	128

\*Students interested in federal employment in range management must take AGRO/RNGE 442 and 444.

## Courses of Instruction (GRAS)

**490. Internship Experience in Grazing Livestock Systems** (1-3 cr, max 4 I, II, III) Ind. Fld. Prereq: Junior standing; GRAS major; and permission. Requires a minimum of 13 weeks of experience at a location to obtain 3 credit hours.

A structured practical experience under the supervision of a professional in grazing livestock systems.

**495. Grasslands Seminar** (AGRO, ENTO, HORT, NRES, RNGE, SOIL 495) (1-2 cr, max 4 cr I) Prereq: Junior standing.

Topic varies and deals with different aspects of forage and/or range and/or livestock, turf and/or landscape grasses, natural habitats, and wetlands.

**496. Independent Study** (1-5 cr, max 5 cr I, II, III) Prereq: Permission and advance approval of contract.

## Horticulture

**Head:** Professor Mark Lagrimini, Department of Agronomy and Horticulture, 279 Plant Sciences

**Professors:** Gaussoin, Gustafson, Horst, Paparozzi, Read, Shearman, Sutton

**Associate Professors:** Rodie, Todd

**Assistant Professor:** Waters

**Assistant Professors of Practice:** Adams, Lambe

**Industry Partner/Instructor:** Simmons

Horticulture requires a broad education including knowledge of production, management, improvement, distribution, processing, and utilization of fruits, vegetables, ornamentals, and turf. Horticulture relies on an understanding of the basic sciences and involves competence in communication, aesthetic appreciation, and an awareness of consumer needs.

The following options are open to students in horticulture: horticulture entrepreneurship, landscape design, plant science, and production.

Horticulture students are encouraged to enroll for credit in one or more career experiences after completing two years of formal training. Internships provide invaluable exposure to commercial/ professional horticultural enterprises, and should be arranged through advisers. Horticulture students take horticulture courses on a graded basis.

Electives chosen from social sciences or humanities would be valuable to students considering careers in extension horticulture, horticultural therapy, or other people-oriented aspects of horticulture.

## Requirements

The following basic courses are required for the horticulture degree program. In addition, students in horticulture must select and meet the requirements of one of the options, depending upon their particular needs and interests.

<b>College Integrative Course .....</b>	<b>Hours</b>
AGRI/NRES 103 Intro to Agricultural & Natural Resource Systems .....	3
<b>Horticulture Core .....</b>	<b>22</b>
HORT 131 Plant Science .....	3
HORT 133 Horticulture Lab .....	1
HORT 153 Soil Resources .....	4
HORT 212 & 213 Landscape Plants I & II or 212 & 214 Landscape Plants .....	6
HORT 221 Plant Propagation .....	3
Horticulture Production Elective .....	4
HORT 352 Production & Physiology of Horticultural Crops (3 cr) & Lab (1 cr) (HORT 353 or 354 or 355) or HORT 362 Nursery Crop Production Management (4 cr)	
HORT 395 Career Experience .....	1
<b>Communications .....</b>	<b>6</b>
Written Communication .....	3
Select from: ENGL 150, 151, 254; JGEN 120, 200, 300	
Oral Communication .....	3
Select from: COMM 109, 209, 286	
<b>Mathematics (beyond college algebra) (see option) .....</b>	<b>5</b>
<b>Economics, Humanities and Social Sciences .....</b>	<b>15</b>
ECON 211 or ECON 212 or AECN 141 .....	3
ACE Courses .....	12
Select one course each from ACE outcomes 5, 7, 8, and 9.	
<b>Natural Sciences .....</b>	<b>11-13</b>
Physics .....	4-5
MSYM 109; or PHYS 141, 151 or 211 (see option)	
Biology .....	3-4
NRES 220 or BIOS 109 (see option)	
Chemistry .....	4
CHEM 105 or CHEM 109 (see option)	
<b>Core Total.....</b>	<b>62-64</b>

## Horticulture Entrepreneurship Option

Students in the horticulture entrepreneurship option are preparing for careers in business aspects of commercial horticulture. Students pursuing this option should take ECON 211 for the economics core requirement.

<b>Hours</b>	
<b>Capstone.....</b>	<b>3</b>
HORT 488 Business Management for Horticultural Enterprises .....	3
<b>Mathematics .....</b>	<b>5</b>
MATH 102 Trigonometry .....	2
STAT 218 Intro to Statistics .....	3
<b>Horticulture Production.....</b>	<b>4</b>
HORT 362 Nursery Crop Management & Production .....	4
<b>Horticulture Management.....</b>	<b>13</b>
Select from the following courses:	
HORT 228 Intro to Landscape Management (3 cr)	
HORT 227 Introductory Turfgrass Management or HORT 327 Turfgrass Science & Management (3 cr)	
HORT 325 Greenhouse Practices & Management (4 cr)	
HORT 352 Production & Physiology of Horticultural Crops (2 cr)	
HORT 353 Vegetable Crop Production Lab (2 cr)	
HORT 354 Fruit Production Lab (2 cr)	
HORT 355 Perennial, Pot & Bedding Plant Production Lab (2 cr)	
HORT 470 Critical Thinking in Landscape Management (4 cr)	
<b>Pest Management .....</b>	<b>6-7</b>
Select two of the following:	
ENTO 115 Insect Biology (3 cr) and ENTO 116 Insect Identification (1 cr) or ENTO 303 Horticultural Insects (3 cr)	
PLPT 369 Introductory Plant Pathology (3 cr)	
AGRO 426 Invasive Plants (3 cr)	
<b>Business and Economics .....</b>	<b>24-26</b>
ACCT 201 & 202 Introductory Accounting I & II (6 cr) or ACCT 306 Survey of Accounting (4 cr) .....	4-6
BLAW 371 Legal Environments .....	3
ECON 212 Principles of Microeconomics .....	3

<b>Hours</b>	
<b>Capstone Course .....</b>	<b>(select from core)</b>
Any approved capstone course.	
(HORT 488 recommended)	
BIOS 109 General Botany .....	
CHEM 109 General Chemistry I	
PHYS 141 Elementary General Physics I	
HORT 212 Landscape Plants I and HORT 213 Landscape Plants II	

ENTR 291 Special topics in Entrepreneurship .....	3
FINA 361 Finance .....	3
HORT 288 Horticulture Entrepreneurship .....	2
MNGT 361 Personnel/Human Resources Management .....	3
MRKT 341 Marketing .....	3
<b>Option Total.....</b>	<b>50-53</b>
<b>Free Electives .....</b>	<b>11-16</b>
Suggested electives include ENTR 421,422, 423	
<b>HORT Core Requirements.....</b>	<b>62-64</b>
<b>Total Requirements for Graduation .....</b>	<b>128</b>

## Landscape Design Option

Students in the landscape design option are preparing for careers with nurseries, garden centers, or landscape contracting firms that design, plant, or install residential and commercial landscapes. Students choosing a landscape architecture minor are preparing themselves for graduate study in landscape architecture. For further details see the next page.

<b>Hours</b>	
<b>Capstone Course .....</b>	<b>(select from core)</b>
HORT 469 Senior Landscape Design .....	
<b>Mathematics .....</b>	<b>(select from core)</b>
MATH 102 Trigonometry .....	
STAT 218 Intro to Statistics .....	
<b>Horticulture.....</b>	<b>3</b>
HORT 214 Herbaceous Landscape Plants .....	3
<b>Technology Applications .....</b>	<b>6</b>
AGRI 271 Intro to Computer Applications in Agriculture .....	3
HORT 452 Irrigation Systems Management .....	3
<b>Landscape Management.....</b>	<b>9</b>
HORT 453 Urban Soils .....	3
TLMT 227 Introductory Turfgrass Management .....	3
TLMT 228 Intro to Landscape Management .....	3
<b>Business and Communication .....</b>	<b>10</b>
HORT 288 Horticulture Entrepreneurship .....	2
HORT 488 Business Management for Horticultural Enterprises .....	3
SPAN 101 Beginning Spanish .....	5
<b>Design.....</b>	<b>10</b>
HORT 265 Visual Communications for Landscape Design .....	3
HORT 266 Intro to Landscape Design .....	2
HORT 267 Intro to Landscape Design Studio .....	2
HORT 467 Planting Design .....	4
<b>Landscape Installation and Administration.....</b>	<b>4</b>
CNST 131 Intro to the Construction Industry .....	1
HORT 300 Intro to Landscape Construction .....	3
<b>Sub Total .....</b>	<b>46</b>
<b>Free Electives .....</b>	<b>18-20</b>
<b>HORT Core Requirements.....</b>	<b>62-64</b>
<b>Total Requirements for Graduation .....</b>	<b>128</b>

## Plant Science Option

Students in the graduate study option are preparing for careers in which the basic understanding of the science of the growth and development of fruit, nut, floricultural and ornamental, vegetable or turf crops is critical to success. This option also prepares students to seek a master of science and/or doctor of philosophy degree. These degrees are necessary for students considering teaching at the college or university level as well as upper-level employment/research for green industry companies or universities.

<b>Hours</b>	
<b>Capstone Course .....</b>	<b>(select from core)</b>
Any approved capstone course.	
(HORT 488 recommended)	
BIOS 109 General Botany .....	
CHEM 109 General Chemistry I	
PHYS 141 Elementary General Physics I	
HORT 212 Landscape Plants I and HORT 213 Landscape Plants II	

Mathematics (beyond core minimum) .....	0-1
<i>Choose from:</i>	
MATH 106 Calculus & Analytic Geometry (recommended) (5)	
MATH 104 Calculus for Managerial & Social Sciences (3 cr) and STAT 218 Intro to Statistics (3 cr)	
<b>Natural Sciences</b> ..... 12-14	
BIOC 321 & 321L Elements of Biochemistry & Lab (4 cr) or BIOC 431 & 433 Biomolecules & Metabolism & Lab (6 cr) ..... 4-6	
CHEM 110 General Chemistry II ..... 4	
CHEM 251 Organic Chemistry ..... 3	
CHEM 253 Organic Chemistry Lab ..... 1	
<b>Plant Sciences</b> ..... 18	
AGRO 315 Genetics ..... 4	
AGRO 325 Intro to Plant Physiology ..... 4	
ENTO 115 Insect Biology ..... 3	
ENTO 116 Insect Identification ..... 1	
ENTO 303 Horticultural Insects ..... 3	
PLPT 369 Intro to Plant Pathology ..... 3	
<b>Additional courses</b> ..... 15	
<i>Select from:</i>	
HORT 214, 216, 227 or 327, 261, 262, 265, 353, 354, 355, 362, 396, 399, 406, 424, 425, 471; AGRO 426; PLPT 369L	
<b>Option Total</b> ..... 48-51	
<b>Free Electives</b> ..... 13-18	
<b>HORT Core Requirements</b> ..... 62-64	
<b>Total Requirements for Graduation</b> ..... 128	

## Production Option

This option prepares students for production, marketing and sales careers in nursery, field and greenhouse grown ornamentals, fruits and vegetables.

This option is met by completing the courses listed under the horticulture core curriculum plus the following:

Hours

<b>Capstone Course</b> ..... (select from core)	
<i>Any approved capstone course.</i>	
(HORT 488 recommended)	
BIOS 109 General Botany	
CHEM 109 General Chemistry I	
PHYS 141 Elementary General Physics I	
HORT 212 Landscape Plants I and HORT 213 Landscape Plants II	
<b>Mathematics</b> ..... 5	
MATH 102 Trigonometry ..... 2	
STAT 218 Intro to Statistics ..... 3	
<b>Natural Sciences</b> ..... 7	
CHEM 110 General Chemistry II ..... 4	
CHEM 251 Organic Chemistry ..... 3	
<b>Plant Sciences</b> ..... 26	
AGRO 315 Genetics ..... 4	
AGRO 325 Intro to Plant Physiology ..... 4	
ENTO 115 Insect Biology ..... 3	
ENTO 116 Insect Identification ..... 1	
ENTO 303 Horticultural Insects ..... 3	
HORT 325 Greenhouse Practices & Management ..... 4	
HORT 352 Production & Physiology of Horticultural Crops (2 cr) and HORT 353 Vegetable Crop Production Lab (2 cr) ..... 4	
HORT 354 Fruit Production Lab (2 cr) and HORT 355 Perennial, Pot & Bedding Plant Production Lab (2 cr) ..... 4	
HORT 362 Nursery Crop Production Management ..... 4	
PLPT 369 Intro to Plant Pathology ..... 3	
<b>Horticulture Electives</b> ..... 12	
<i>Select from:</i>	
HORT 214, 216, 227 or 327, 261, 262, 265, 362, 396, 399, 406, 424, 425, 471; AGRO 366, 426; PLPT 369L	
<b>Option Total</b> ..... 48	
<b>Free Electives</b> ..... 16-18	
<b>HORT Core Requirement</b> ..... 62-64	
<b>Total Requirements for Graduation</b> ..... 128	

## Horticulture, Biological Sciences Minor

Students in the science, production, or turfgrass option must take 14 additional hours (AGRO 315 substitutes for BIOS 206) as specified under "Requirements for the Minor in Biological Sciences" on page 144.

## Horticulture, Chemistry Minor

Students in the science, production or turfgrass options can obtain a minor in chemistry by fulfilling the option requirements (take CHEM 251) plus quantitative chemistry (CHEM 221) and 8 additional chemistry credits. Refer to "Requirements for the Minor in Chemistry" on page 148 of this bulletin and see your adviser.

## Horticulture, Mathematics Minor

Students in the science, production or turfgrass options can obtain a minor in mathematics by fulfilling the option requirements (take MATH 106 as your required mathematics course) plus MATH 107 and 208. Two or three advanced courses may also be required dependent on the plan chosen. Refer to "Requirements for the Minor in Mathematics" on page 192 of this bulletin and see your adviser.

## Horticulture Minor

A minor in horticulture consists of a minimum of 18 credit hours of horticulture including 6-8 hours at the 300 level or above. Advisers for the horticulture minor will be assigned by the Head of the Department of Agronomy and Horticulture. Requirements are as follows:

Hours

<b>Core</b> ..... 10-12	
<i>Select from:</i>	
HORT 130 Intro to Horticulture Science (4 cr)	
HORT 200 Landscape & Environmental Appreciation (3 cr) or HORT 261 Floral Design (3 cr) or HORT 355 Perennials, Potting & Bedding Plant Production Lab (2 cr)	
HORT 212 Landscape Plants I (3 cr)	
HORT 221 Plant Propagation (3 cr)	
<b>Electives</b> ..... 6-8	
<i>Select from:</i>	
HORT 300 Intro to Landscape Construction (3 cr)	
HORT 325 Greenhouse Practices & Management (4 cr)	
HORT 352 Fruit & Vegetable Science & Culture (2 cr)	
HORT 353 Vegetable Crop Production Lab (2 cr)	
HORT 354 Fruit Production Lab (2 cr)	
HORT 355 Perennial, Pot & Bedding Plant Production Lab (2 cr)	
HORT 362 Nursery Crop Production & Management (4 cr)	
HORT 395 Career Experience (3 cr)	
HORT 396 Current Projects and Topics in Horticulture (1-5 cr)	
HORT 399 Independent Study (3 cr)	
HORT 467 Planting Design (3 cr)	
TLMT 327 Turfgrass Science & Management (3 cr)	

## Landscape Architecture Minor

A landscape architecture minor is offered jointly by the Colleges of Architecture and Agricultural Sciences and Natural Resources. It consists of 18-20 credit hours. All those wishing to complete the minor must take selected courses plus these core courses:

	Hours
<b>Core</b> .....	10
ARCH 240 History of Architecture ..... 3	
ARCH 360 Site Context Issues ..... 3	
HORT 200 Landscape & Environmental Appreciation ..... 3	
HORT 498 Topics in Landscape Architecture ..... 1	
<b>Horticulture Students</b> ..... 9	

*Select from:*

ARCH 106 Intro to Design (3 cr)	
ARCH 340 Architecture History Theory I (3 cr)	
ARCH 442 Contemporary Architecture (3 cr)	
CRPL 400 Intro to Planning (3 cr)	
CRPL 477 Recreation & Park Planning (3 cr)	

**Architecture Majors** ..... 8-10

*Select at least one from:*

HORT 130 Intro to Horticulture Science (4 cr)	
HORT/NRES 212 Landscape Plants I (3 cr)	
HORT 214 Herbaceous Perennials (3 cr)	
HORT 266 Intro to Landscape Design (4 cr)	

*Select at least one from:*

HORT 300 Intro to Landscape Construction (3 cr)	
HORT/ARCH 467 Planting Design (4 cr)	
HORT/ARCH 469 Senior Design (4 cr)	

Other students select at least two courses from either of the above horticulture or architecture groups, one at the 100 level and one or more at the 300 or 400 level in addition to the core, to total at least 18 credit hours.

Certain of the core and selected courses have prerequisites or are offered once per year. Students who wish to minor in landscape architecture should consult with their adviser early in their program.

Other minors are also available through the College of Arts and Sciences. See your adviser for specific information.

## Courses of Instruction (HORT)

The courses provide: 1) knowledge of the potentials and limitations of plant resources; 2) an introduction to horticultural science and practices; 3) intensive study in individual phases of horticulture; and 4) opportunity for research.

**110. Exploring Plant Biology** (AGRO, NRES 110) (1 cr) Lec, rct. For course description, see AGRO 110.

[ES] **130. Introduction to Horticulture Science** (4 cr I) Lec 3, lab 2.

Introduction to the scientific concepts and practical skills involved in horticultural science.

**133. Introduction to Horticultural Sciences Laboratory** (1 cr I) Lab 2.

Introduction to and practical experience in the production and usage of horticultural plants.

[ES][IS] **153. Soil Resources** (AGRO, SOIL 153) (4 cr I, II) Lec 1, act 4. Prereq: High school chemistry or one semester college chemistry.

For course description, see AGRO 153.

**159. Current Topics in Plant Protection II** (PLPT, AGRO, ENTO 260) (1 cr II) Lec 1. Prereq: Sophomore standing. For course description, see PLPT 260.

**160. Current Topics in Plant Protection I** (PLPT, AGRO, ENTO 160) (1 cr) Lec 1.  
For course description, see PLPT 160.

**170. Residential Landscape Design** (2 cr 1) Lec 1, lab/ disc 2.  
Introductory course in home landscaping focusing on basic design elements and processes. Students prepare a program, analyze a dwelling and site, determine a phased budget, conceptualize a layout, and select detailed elements and techniques to implement a design for an actual residence.

(ACE 7, 9) [ES][IS] **200. Landscape and Environmental Appreciation** (GEOG, LARC 200) (3 cr II) Lec 2, rct 1.

Values and processes in human landscapes and natural environments. Concepts and tools to understand the context of local and global environments and significant historical landscapes. Landscape as an indicator of aesthetic quality, design principles and processes as integrators of humans and nature, and the garden as a model for creating sustainable landscapes.

**212. Landscape Plants I** (LARC, NRES 212) (3 cr I) Lec 2, rct 1.  
Prereq: HORT 130. *Requires Saturday off-campus field trips.*  
Identification using botanical and common names for herbaceous annuals, perennials, grasses, ground covers, vines, trees, and shrubs commonly found in Great Plains gardens, parks, and landscapes is stressed through field visits.

**213. Landscape Plants II** (LARC, NRES 213) (3 cr II) Lec 2, lab 2.  
Prereq: HORT/LARC/NRES 212. *HORT/LARC/NRES 213 is a continuation of HORT/LARC/NRES 212.*  
Site requirements, landscape use, natural history, and specific needs of herbaceous ornamentals, grasses, ground covers, vines, trees, and shrubs commonly found in Great Plains gardens, parks, and landscapes. Common cultivars and additional species not covered in HORT/LARC/NRES 212.

**214. Herbaceous Landscape Plants** (NRES 214) (3 cr I) Lec 2, rct 1. *Extensive field trips are required.*  
Identification of herbaceous plants with ornamental value in the landscape including native and introduced annuals, perennials, grasses and cultivars. Typical ecological associations, environmental tolerances and/or intolerance, cultural requirements, and design characteristics.

**216. Plant Breeding Principles and Practice** (AGRO, BIOS 216) (2 cr) Lec 2. Prereq: High school biology and chemistry. BIOS 101 and 101L, or 102 or equivalent recommended.  
For course description, see AGRO 216.

**221. Plant Propagation** (3 cr II) Lec 2, lab 2. Prereq: BIOS 109 or permission.  
Principles and practices involved in sexual and asexual propagation of herbaceous and woody plants. Laboratory work includes actual practice to gain skill and experience on the different methods of propagating plants.

**227. Introductory Turfgrass Management** (TLMT, AGRO, PGMP 227) (3 cr, max 3 II) Lec 2, lab 3. Prereq: AGRO 131 or HORT 130 or BIOS 109.  
For course description, see TLMT 227.

**228. Introduction to Landscape Management** (TLMT, AGRO, PGMP 228) (3 cr II) Lec 2, lab 3. Prereq: AGRO 131 or BIOS 109. *TLMT/AGRO/HORT/PGMP 228 uses a team approach to problem solving, discussion, assessment planning and oral presentations of applied case studies.*  
For course description, see TLMT 228.

**242. North American Wildland Plants** (AGRO, RNGE 242) (1 cr, max 4 I, II) Lec 3. Prereq: Permission, AGRO/RNGE 240 recommended.  
For course description, see AGRO 242.

[ES][IS] **261. Floral Design I** (3 cr I) Lec/lab 3.  
Principles of floral design and retail florist shop management, while offering practical experience in all aspects of flower arranging. Includes identification, care and handling, marketing and critiquing of floral designs.

[ES] **262. Floral Design II** (3 cr II) Lec/lab 3. Prereq: HORT 261 or permission. *Offered spring semesters.*  
Advanced styles of floral design, foliage plant care and retail shop layout, as well as practical business knowledge in managing a small business. Topics include personnel, advertising, sales and floral marketing.

**265. Visual Communication for Landscape Design** (3 cr I) Lab 6. Prereq: HORT 200.  
Graphic and oral presentation techniques for landscape design; sketching; introduction to use of various media and computers for visual communication and landscape analysis.

[ES] **266. Introduction to Landscape Design** (LARC 216) (2 cr II) Lec 1, rct 2. Prereq: HORT/GEOG/LARC 200 or HORT 265; HORT/LARC/NRES 212 or equivalent; ARCH/IDES/LARC 220. Landscape design, analysis, and process for design of the landscape site. Problems in examining residential sites; basic uses of plants, land form, and other landscape materials and concepts; and introduction to the concepts of sustainable design.

[ES] **267. Introduction to Landscape Design Studio** (LARC 217) (2 cr II) Stu 2. Prereq: HORT/GEOG/LARC 200 or HORT 265; HORT/LARC/NRES 212 or equivalent; ARCH/IDES/LARC 220. *HORT 267/LARC 217 requires individual and team projects, studio critiques, presentations, and may require off-campus site visits outside of scheduled class time.*

Analysis, design, and detailing of residential landscapes.

**270. Biological Invaders** (PLPT/AGRO/NRES 270) (3 cr I) Pre-req: 3 hrs biological sciences.

For course description, see PLPT 270.

**288. Horticulture Entrepreneurship** (2 cr II) Lec 2. *HORT 288 requires completion of a marketing plan specific to the horticulture field based on a business idea.*

Various types of horticultural enterprises. Basic accounting principles as they relate to horticulture.

**300. Introduction to Landscape Construction** (3 cr I) Lec 2, lab 2. Prereq: HORT 266; MATH 102 or 106/108H; MSYM 109 or PHYS 141. SOIL 153 and CNST 131 recommended. *HORT 300 requires field trips to landscape installation sites.*

Introduction to the landscape construction industry. Sustainable use and installation of hard-scape materials; business and safety procedures; cost estimates; erosion control; grading; and drainage.

**305. Geography of Agriculture** (AGRO, GEOG 305) (3 cr II) Lec 2, lab 3. Prereq: AGRO 131 or 153 or HORT 130 or GEOG 140 or 155 or equivalent.

For course description, see AGRO 305.

[ES] **325. Greenhouse Practices and Management** (4 cr II) Lec 3, rct and lab 2. Prereq: HORT 130, 221. Offered spring semester of odd-numbered calendar years.

Principles underlying the management of the greenhouse.

**326. Landscape Solutions** (TLMT, AGRO, PGMP 326) (3 cr I) Lec 1, lab 4. Prereq: TLMT/AGRO/HORT/PGMP 227 or 228.

For course description, see TLMT 326.

[ES] **327. Turfgrass Science and Management** (TLMT, AGRO, PGMP 327) (3 cr I) Lec 2, lab 3. Prereq: AGRO/HORT/SOIL 153, BIOS 109, CHEM 109 or parallel, or HORT 221.

For course description, see TLMT 327.

**328. Turfgrass Equipment** (TLMT, AGRO, PGMP 328) (1 cr I) Lec 1, lab 2.

For course description, see TLMT 328.

**329. Landscape Equipment** (TLMT, AGRO 329) (1 cr I) Lec 1, lab 2.

For course description, see TLMT 329.

**330. Pruning Ornamentals** (TLMT, AGRO 330) (1 cr II) Lec 1, lab 2. *TLMT/AGRO/HORT 330 will be offered during the last five weeks of the second semester.*

For course description, see TLMT 330.

**350. Basic Fruit Production** (3 cr I) Lec 2, rct and lab 3. Prereq: HORT 130, 221. *Offered fall semester of even-numbered calendar years.*

Principles underlying the management of orchards and small fruits. Includes site selection, culture, pruning, hardiness, rootstock and scion relationships, and insect and pest management.

**352. Production and Physiology of Horticultural Crops** (2 cr I) Lec 2. Prereq: HORT 130 or AGRO 131; parallel HORT 353 or 354.

Principles underlying the management and production of floricultural, fruit and vegetable crops.

**353. Vegetable Crop Production Laboratory** (2 cr) Lab 2, rct 1. Prereq: HORT 130 or AGRO 131.

Vegetable crop production principles and practices, both

locally and from a global perspective. Experience with seeding, transplant production and growing of vegetables in field and greenhouse.

**354. Fruit Production Laboratory** (2 cr) Lab 2, rct 1. Prereq: HORT 130 or AGRO 131.

Fruit crop production principles and practices, both locally and from a global perspective. Experience with planting, pruning and layout of orchard, vineyard and small fruit crops, greenhouse propagation, and production practices.

**355. Perennial, Pot and Bedding Plant Production Laboratory** (2 cr I) Lab 2, rct 1. Prereq: HORT 130 or AGRO 131. HORT 352 recommended.

Growing conditions of specific perennial, annual, pot plants, cut flowers. How to schedule and cost account plant production. Care of post-production plants. Experience propagating and growing perennial, pot and bedding plants and cut flowers in the greenhouse.

**362. Nursery Crop Production Management** (4 cr II) Lec 3, rct and lab 3. Prereq: HORT 130 and 221.

Principles underlying the production of nursery crops and the profitable management of a nursery. Includes propagation, transplanting, handling, and transportation of nursery crops, as well as cultural considerations such as media, fertilizers, and pest control. Economic aspect of running a business.

**370. Biology of Fungi** (AGRO/PLPT 370) (3 cr I) Prereq: 8 hrs biological sciences.

For course description, see PLPT 370.

**390. Current Topics in Plant Protection III** (PLPT, AGRO, ENTO 390) (1 cr, max 2 II) Lec 1. Prereq: Junior standing.

For course description, see PLPT 390.

**395. Career Experience<sup>1</sup>** (AGRO, TLMT 395) (1-5 cr, max 5) Fld. Prereq: Sophomore standing; HORT or AGRO or TLMT major. *HORT/TLMT/AGRO 395 requires advanced permission before registering for the course. A written and oral report is required at the completion of the career experience.*

Participation in a horticulture enterprise (other than in one of those in which the student has had previous experience).

**396. Current Projects and Topics in Horticulture** (1-5 cr, max 5 I, II, III) Ind. Prereq: Sophomore standing; 12 hours in subject areas dealing with plant sciences; and permission. *A completed and approved study plan contract is required.*

Independent or group projects, readings, or research focusing on current aspects of horticulture.

**399. Independent Study<sup>1</sup>** (3-5 cr, max 12 I, II, III) Prereq: Junior standing; 12 hrs plant science; advance approval of plan of work; and permission. *Oral and written reports are mandatory at the completion of this project.*

Individual or group projects in research, literature review, or extension of course work under supervision and evaluation of a departmental faculty member.

**406/806. Plant Ecophysiology: Theory and Practice** (AGRO, NRES 406/806) (4 cr) Lec 3, lab 1. Prereq: Junior standing; 4 hrs ecology; and 4 hrs botany or plant physiology. *Offered fall semester of even-numbered calendar years.*

For course description, see NRES 406/806.

**407/807. Bio-atmospheric Instrumentation** (AGRO, GEOG, MSYM, METR, NRES 469/869) (3 cr I) Lec 2/lab 1. Prereq: Junior standing; MATH 106; 4 hrs physics; physical or biological science major. *Offered fall semester of odd-numbered calendar years.*

For course description, see NRES 469/869.

**408/808. Microclimate: The Biological Environment** (AGRO, GEOG, METR, NRES 408/808; WATS 408) (3 cr) Prereq: Junior standing; MATH 106 or equivalent, 5 hrs physics, major in any of the physical or biological sciences or engineering; or permission. For course description, see NRES 408/808.

**413/813. Turfgrass and Landscape Weed Management** (TLMT, AGRO 413/813) (1 cr II) Lec 1, lab 2.

For course description, see TLMT 413/813.

**418/818. Agroforestry Systems in Sustainable Agriculture** (NRES 417/817) (3 cr) Lec 3. Prereq: 12 hours biological or agricultural sciences. At least one course in production agriculture and one course in natural resources is strongly suggested. *Offered odd-numbered calendar years.*

For course description, see NRES 417/817.

**424/824. Plant Nutrition and Nutrient Management** (AGRO 424/824) (3 cr II) Lec 3. Prereq: AGRO 325 or basic course in plant physiology. A course in organic chemistry or biochemistry recommended. *Offered spring semesters.*

Macro and micro nutrient elements and their function in the growth and development of plants. Role of single elements. Interaction and/or balances between elements and nutrient deficiency and/or toxicity symptoms as they affect the physiology of the whole plant. Relationship between crop nutrition and production and/or environmental considerations (e.g. yield, drought, temperature, pests).

**426/826. Invasive Plants** (AGRO, NRES 426/826) (3 cr II) Lec 2, lab 2. Prereq: AGRO/HORT/SOIL 153; BIOS 109. For course description, see AGRO 426/826.

(ACE 10) **427/827. Critical Thinking in Turfgrass Management**<sup>1</sup> (TLMT, AGRO 427/827, PGMP 427) (3 cr I) Lec 2, lab 2. Prereq: 9 hrs agricultural plant science and 3 hrs soil science. Capstone course. *TLMT/AGRO/HORT 427/827/PGMP 427 involves class discussion, case studies, field trips, and demonstrations.* For course description, see TLMT 427/827.

**435/835. Agroecology** (AGRO, NRES 435/835) (3 cr II) Lec 3. Prereq: For AGRO/HORT/NRES 435: Senior standing or permission. For AGRO/HORT/NRES 835: 12 hrs biological or agricultural sciences or permission. *Team projects for developing communication skills and leadership skills.* For course description, see AGRO 435/835.

**436/836. Agroecosystems Analysis** (AGRO 436/836) (3 cr III) Fld. Prereq: Senior standing. *Cost of travel required. Summer travel course with multi-state faculty. Farm visits to Iowa, Minnesota and Nebraska.* For course description, see AGRO 436/836.

**440/840. Turfgrass and Landscape Integrated Pest Management** (TLMT 440/840) (1 cr I) Lec 1, rct 2. *TLMT/HORT 440/840 is a five-week course.* For course description, see TLMT 440/840.

**441/841. Perennial Plant Function, Growth, and Development** (AGRO 441/841, RNGE 441) (3 cr II) Lec 3. Prereq: AGRO 325 or equivalent. For course description, see AGRO 441/841.

**452/852. Irrigation Systems Management** (MSYM 452/852, WATS 452) (3 cr I) Lec 2, lab 2. Prereq: MSYM 109 or general physics; AGRO/SOIL 153 recommended. For course description, see MSYM 452/852.

**453. Urban Soil Properties and Management** (AGRO, LARC, SOIL 453) (3 cr I) Lec 3. Prereq: AGRO/HORT/SOIL 153. Characteristics of soils in urban settings. Evaluation of soils intended for intensive human uses. Manipulation and remediation of soils subject to construction and other stresses.

**467. Planting Design** (ARCH 467/567/867, LARC 467) (4 cr I) Lec 4. Prereq: HORT/LARC/NRES 212; ARCH 210 or HORT/LARC 266.

Design processes, principles, and elements as applied to the use of native and ornamental plant materials. Aesthetic, functional, and micro-climatic arrangements of plant material in parks, on commercial property, on home grounds, along roadways, and in urban open spaces. Develop a palette of plants and graphics for designs.

(ACE 10) [IS] **469. Senior Landscape Design**<sup>1</sup> (ARCH 469) (4 cr II) Studio 8. Prereq: HORT 341 and/or permission. *Capstone course for the landscape option.* Students work individually on real-world projects with actual clients. They select the project location and scope in consultation with the instructor prior to the semester this course is taken. The project must reflect evidence of a design process, design articulation and communication understandable to the client and provide in depth drawings, details needed to carry out the implementation of the design.

(ACE 10) [IS] **470. Critical Thinking in Landscape Management**<sup>1</sup> (AGRO, TLMT 470) (3 cr II) Lec 1, lab 3. Prereq: AGRO/HORT/PGMP/TLMT 326. *Form a landscape management company.* For course description, see TLMT 470.

**471. Vines, Wines and You** (NUTR 471/871) (3 cr II) Lec. Lab. Prereq: 6 hrs science or equivalent experience; 21 years of age or older. *Proof of age is required.* Origin, botany, historical and cultural significance of the grapevine and related species. Principles and practices of vineyard establishment, management and processing of grape products,

importance and/or scope of grape and wine industry; global and local significance. Culinary applications, health, environmental and safety-related issues, business and industry relations and experience.

**480/880. Modified Rootzones** (TLMT, AGRO 480/880) (1 cr I, II) Lec 1, lab 2. Prereq: AGRO/HORT/SOIL 153. *TLMT/AGRO/HORT 480/880 is offered as a five-week course.* For course description, see TLMT 480/880.

(ACE 10) [IS] **488/888. Business Management for Horticultural Enterprises**<sup>1</sup> (3 cr) Lec 3. Prereq: HORT 325 or 327 or 362 or 470. HORT 488/888 requires the completion of a shadowing assignment and the analyses of case studies.

Research a specific horticultural enterprise. Develop and present a business plan using materials from the primary area of interest.

[IS] **489/889. Urbanization of Rural Landscapes** (AGRO/CRPL 489/889) (3 cr II) Lec 3. Prereq: Senior standing, graduate standing, or permission of instructor. For course description, see AGRO 489/889.

**495. Grasslands Seminar** (AGRO, ENTO, GRAS, NRES, RNGE, SOIL 495) (1-2 cr, max 4 cr I) Prereq: Junior standing. For course description, see GRAS 495.

**498/898. Topics in Landscape Architecture** (LARC 498/598) (1 cr I) Lec 1. Prereq: Senior standing and permission.

Topical readings, theory, research, and practice in landscape architecture. Topics might include, but are not limited to, sustainable landscapes, visual and aesthetic assessment, restoration and reclamation, landscape management, recreational landscapes, art in the landscape, landscape ecology applied to design and planning, historical landscape preservation, and plant materials for the Great Plains landscape.

**499H. Honors Thesis** (3-6 cr, max 6 I, II, III) Prereq: Admission to the University Honors Program and permission, AGRI 299H recommended.

Conduct a scholarly research project and write a University Honors Program undergraduate thesis.

**810. Plant Molecular Biology** (AGRO, BIOC, BIOS \*810) (3 cr II) Lec 3. Prereq: AGRO 315 or BIOS 206, BIOC 831 or permission.

**811. Plant Tissue Culture** (BIOS, NRES 811) (4 cr II) Lec 2, lab 4. Prereq: BIOS 109; AGRO 325 which includes CHEM 109 and 110 and BIOC 211; or equivalent.

**812. Landscape Ecology** (NRES 810) (3 cr II) Lec 3, lab. Prereq: 12 hours biological sciences or related fields including BIOS 220 or permission.

**822. Integrated Weed Management** (AGRO \*822) (1 cr) Lec 1. Prereq: 12 hrs AGRO and/or closely related HORT and/or BIOS courses.

**849. Woody Plant Growth and Development** (NRES, BIOS 849) (3 cr I) Lec 2. Prereq: CHEM 251; and AGRO 325. Offered fall semester of odd-numbered calendar years.

**896. Independent Study** (1-5 cr I, II, III) Prereq: 12 hrs plant science, permission, and advance approval of plan of work.

**899. Masters Thesis** (6-10 cr I, II, III)

*Refer to the Graduate Bulletin for 900-level courses.*

## Insect Science

**Coordinator: Associate Professor Tiffany Heng-Moss, 201B Entomology**

The field of insect science encompasses the agricultural, biological, and environmental sciences related to insects and their interactions with humans. Insects and their relatives are the most abundant animals on earth, are commonly found in all habitats, and are essential in maintaining our ecosystem. Entomology offers numerous career opportunities in both basic and applied fields.

The core curriculum provides students with a balanced education focusing on insect identification, biology, structure and function, behavior, ecology, and diversity, as well as courses in mathematics, science, and the humanities. In addition to the core, there are four different options from which students can select an area of focus which meets their own interest and career objectives.

- The IPM and Pest Science Option** is designed for students considering careers in agriculture, agribusiness, consulting (agricultural, environmental, public health, urban), extension, state and federal government agencies (e.g., APHIS, EPA, USDA, and state departments of agriculture), horticulture, the military, food processing, and pest control. Examples of areas of focus include agronomic and horticultural pests, or urban pests. This option is also suitable as preparation for graduate studies leading to academic or research careers in applied entomology.
- The Insect Science Option** is designed for students interested in careers focusing on the basic biology of insects and other arthropods. This option is suitable for students considering any career involving entomology (e.g., academia, research, medicine, forensics, environmental quality, conservation biology, or health-related fields), but is especially appropriate preparation for entry into professional programs such as veterinary and medical schools and with many graduate school disciplines.
- The Public Health Option** is designed for students interested in careers focusing on the association and impacts of insects and related pests on human and animal health. This may include their mere presence and nuisance value, the generation of allergens and subsequent irritation, insect and mite stings and bites, the direct invasion of tissues, and the transmission of disease-causing pathogens. This option is appropriate preparation for graduate study or for careers in academia, research, the military, medicine or health-related fields.
- The Forensic Entomology Option** is designed for students interested in the analysis of forensic evidence from crime scene investigations. This option also is suitable preparation for graduate study or careers in academia, research, or medicine (e.g. pathology).

## Requirements

The following basic courses are required for majors in insect science. In addition, students must select and meet the requirements of one of the options, depending on their own individual interests and career objectives.

The minimum requirements of CASNR reflect the common core of courses that apply to students pursuing degrees in the college. Students should work with an adviser to satisfy ACE outcomes 1, 2, 3, 4, 6 and 10 with the college requirements.

	Hours
College Integrative Course .....	6
AGRI/NRES 103 Intro to Agriculture, & Natural Resources Systems .....	3
ENTO 485 Current Issues in Insect Science .....	3
Departmental Requirements .....	11
ENTO 108 Insects, Science, & Society .....	3

ENTO 115 Insect Biology .....	3
ENTO 116 Insect Identification .....	1
ENTO 400 Biology & Classification of Insects .....	4
<b>Experiential Learning for Career Development in Insect Science .....</b>	<b>4-5</b>
Select from the following four categories: Maximum of 3 hours from any one category.	
ENTO 309 Career Experience	
ENTO 395A Research Experience (Arranged through adviser)	
ENTO 395B Teaching Experience (Arranged through adviser)	
ENTO 395E Extension Experience (Arranged through adviser)	
<b>Mathematics and Statistics (beyond college algebra ...</b>	<b>5</b>
Select from: MATH 102, 104, 106, or STAT 218	
<b>NOTE:</b> Proficiency at the college algebra level must be demonstrated either by a placement exam or through course work. If MATH 103 is taken, only 2 cr hrs can be counted toward this requirement.	
<b>Communication .....</b>	<b>6</b>
Written Communication .....	3
Select from: ENGL 150, 151, 254; JGEN 120, 200	
Communications and Interpersonal Skills .....	3
Select from: ENGL 101, 150, 151, 252, 253, 254; ALEC 102; JGEN 120, 200, 300; COMM 109, 209, 212, 286	
<b>Natural Sciences .....</b>	<b>12</b>
CASNR approved life sciences .....	4
Select from: BIOS 101 & 101L, 102, or 103	
CHEM 109 General Chemistry I .....	4
BIOS 206 General Genetics or AGRO 315 Genetics .....	4
<b>Economics, Humanities and Social Sciences .....</b>	<b>18</b>
ECON 211 or ECON 212 or AECN 141 .....	3
ACE Courses .....	12
Select one course each from ACE outcomes 5, 7, 8, and 9.	
Select one elective in this area .....	3
<b>Total Major Requirements .....</b>	<b>62-63</b>
<b>Option Requirements .....</b>	<b>41-44</b>
<b>Free Electives .....</b>	<b>21-25</b>
<b>Total Requirements for Graduation .....</b>	<b>128</b>

## Integrated Pest Management (IPM) and Pest Science Option

The IPM and Pest Science Option is designed for students considering careers in agriculture, agribusiness, professional consulting (agricultural, environmental, public health, urban), extension, state and federal government agencies (e.g., APHIS, EPA, USDA, and state departments of agriculture), horticulture, the military, food processing, and pest control. Examples of areas of focus include agronomic and horticultural pests, or urban pests. This option is also suitable as preparation for graduate studies leading to academic or research careers in applied entomology.

Hours

<b>Departmental Courses .....</b>	<b>19-21</b>
ENTO 300 Toxins in the Environment .....	2
ENTO 401 Insect Physiology .....	4
ENTO 406 Insect Ecology .....	3
ENTO 412 Entomology & Pest Management .....	3
Select three of the following courses: .....	7-9
ENTO 109 Beekeeping (2 cr)	
ENTO 403 Management of Horticultural Crop Insects (3 cr)	
ENTO 308 Management of Field Crop Insects (3 cr)	
ENTO 407 Urban & Industrial Entomology (3 cr)	
ENTO 409 Insect Control by Host-Plant Resistance (2 cr)	
ENTO 415 Medical Entomology (3 cr)	

<b>Other Courses .....</b>	<b>23</b>
AGRI 115 Biotechnology: Food, Health, and Environment .....	3
AGRO 153 Soil Resources .....	4
AGRO 426 Invasive Plants .....	3
NRES 211 Intro to Conservation Biology .....	3

NRES 220 & 222 Principles of Ecology & Lab .....	4
PLPT 270 Biological Invaders .....	3
PLPT 369 Introductory Plant Pathology .....	3
<b>Total Option Requirements .....</b>	<b>42-44</b>

## Science Option

The Insect Science Option is designed for students interested in careers focusing on the basic biology of insects and other arthropods. This option is suitable for students considering any career involving entomology (e.g., academia, research, medicine, forensics, environmental quality, conservation biology, or health-related fields), but is especially appropriate preparation for entry into professional programs such as veterinary and medical schools and with many graduate school disciplines. *Students pursuing this option must choose BIOS 102 and BIOS 206 in meeting the entomology major requirements in natural sciences; additionally BIOS 103 is highly recommended. Completion of the Insect Science Option will also fulfill requirements for a minor in biological sciences.*

Hours

<b>Departmental Courses .....</b>	<b>13</b>
ENTO 401 Insect Physiology .....	4
ENTO 406 Insect Ecology .....	3
Entomology Elective .....	6

Select from any ENTO course beyond those meeting other major requirements

<b>Other Courses .....</b>	<b>30-31</b>
AGRI 115 Biotechnology: Food, Health, & Environment .....	3
BIOS 205 Genetics, Molecular, & Cellular Biology Lab .....	2
BIOS 207 Ecology & Evolution .....	4
Biological Sciences Electives .....	6-8

Select from any BIOS course beyond those meeting other major requirements.

BIOC 321 & 321L Elements of Biochemistry & Lab ....	4
CHEM 110 General Chemistry II .....	4
CHEM 251 Organic Chemistry I .....	3
PHYS 141 Elementary General Physics I or PHYS 151 Elements of Physics (4 cr) .....	4-5

<b>Total Option Requirements .....</b>	<b>43-44</b>
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*Students interested in graduate or professional schools in biology, medicine, or veterinary science should take: MATH 106 Analytical Geometry & Calculus I .....*

*An additional PHYS course and lab .....*

## Public Health Option

The Public Health Option is designed for students interested in careers focusing on the association and impacts of insects and related pests on human and animal health. This may include their mere presence and nuisance value, the generation of allergens and subsequent irritation, insect and mite stings and bites, the direct invasion of tissues, and the transmission of disease-causing pathogens. This option is appropriate preparation for graduate study or for careers in academia, research, the military, medicine or health-related fields. *Students pursuing this option must choose BIOS 102 and BIOS 206 in meeting the entomology major requirements in natural sciences; additionally a minor in biology can be met with the addition of BIOS 103 through free electives.*

Hours

<b>Departmental Courses .....</b>	<b>15-16</b>
ENTO 401 Insect Physiology .....	4
ENTO 406 Insect Ecology .....	3
Select three of the following courses: .....	8-9
ENTO 109 Beekeeping (2 cr)	
ENTO 300 Toxins in the Environment (2 cr)	
ENTO 407 Urban & Industrial Entomology (3 cr)	
ENTO 414 Forensic Entomology (3 cr)	
ENTO 415 Medical Entomology (3 cr)	

<b>Other Courses .....</b>	<b>26</b>
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BIOS 205 Genetics, Molecular, & Cellular Biology Lab .....	2
BIOS 206 General Genetics .....	4
BIOS 207 Ecology & Evolution .....	4
CHEM 110 General Chemistry II .....	4
Select from the following courses: .....	12

BIOS 102 Cell Structure & Function (4 cr)	
BIOS 103 Organismic Biology (4 cr)	
BIOS 213 & 213L Human Physiology & Lab (4 cr)	
BIOS 312 Fundamentals of Microbiology (3 cr)	
BIOS 314 Microbiology Lab (1 cr)	
BIOS 326 Biology of Viruses (3 cr)	
BIOS 385 Parasitology (4 cr)	
BIOS 443 Immunology (3 cr)	
VBMS 424 Basic Molecular Infectious Diseases (3 cr)	
VBMS 441 & 441L Pathogenic Microbiology & Lab (4 cr)	
VBMS 452 Intro to Molecular Virology & Viral Pathogenesis (3 cr)	

<b>Total Option Requirements .....</b>	<b>41-42</b>
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*Students interested in graduate or professional schools in biology, medicine, or veterinary science should take: BIOC 321 & 321L Elements of Biochemistry & Lab ....*

*CHEM 251 Organic Chemistry I .....*

*PHYS 141 Elementary General Physics I .....*

*PHYS 142 Elementary General Physics II .....*

*MATH 106 Analytical Geometry & Calculus I .....*

<b>Departmental Courses .....</b>	<b>15</b>
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ENTO 300 Toxins in the Environment .....	2
ENTO 401 Insect Physiology .....	4
ENTO 406 Insect Ecology .....	3
ENTO 414 Forensic Entomology .....	3
FORS 120 Intro to Forensic Science .....	3

<b>Other Courses .....</b>	<b>6</b>
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BIOS 205 Genetics, Molecular, & Cellular Biology Lab .....	2
CHEM 110 General Chemistry II .....	4

**Students interested in crime scene investigation should take the following courses: .....**

SOCI 209 Sociology of Crime .....	3
CRIM 101 Survey of Criminal Justice .....	3
ANTH 242 Intro to Physical Anthropology .....	3
BIOS 103 Organismic Biology .....	4
BIOS 214 Human Anatomy .....	5
NRES 220 Principles of Ecology .....	3

**Students interested in forensic analysis should take the following courses: .....**

BIOC 321 & 321L Elements of Biochemistry & Lab ....	4
BIOS 213 & 213L Human Physiology & Lab .....	4
BIOS 312 & 314 Fundamentals of Microbiology & Lab .....	4
CHEM 251 & 253 Organic Chemistry I & Lab .....	4
CHEM 252 & 254 Organic Chemistry II & Lab .....	4

<b>Total Option Requirements .....</b>	<b>41-42</b>
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## Insect Science Minor

A minor in insect science will consist of at least 18 credit hours of entomology including at least 6 hours at the 300 level or above. Biological sciences 381, Invertebrate Zoology, and up to 3 hours of

ENTO 496, Independent Study in Entomology, may be counted towards the minor requirements. The course of study leading to a minor in insect science must be developed in consultation with, and be approved by an adviser in the Department of Entomology. Advisers for the minor are assigned by the Head of the Department of Entomology.

# Mechanized Systems Management

**Head:** Professor Ron Yoder, 223 Chase Hall  
**Professors:** Edwards, Eisenhauer, Hanna, Hoy, Jones, Martin, Meyer, Schinstock, Schulte, Shelton, Smith, Weller, Yang  
**Associate Professors:** Adamchuk, Bashford, Dvorak, Irmak, Kocher, Stowell, Woldt  
**Assistant Professors:** Depak, Istanbulluoglu, Othman, Pannier, Subbiah, van Donk

Managing machines, natural resources, people and money in engineered systems for agriculture and associated commodity handling industries describes the profession of mechanized systems management. The mechanized systems management (MSYM) degree program prepares students for success in the delivery, management, and technical support of systems for food and agriculture. Mechanized systems management is tailored for students whose interests lie primarily in the application, operation, and management of equipment (field, irrigation, and processing), natural resources (soil, water, and air), and commodity handling and processing facilities in engineered systems. This program focuses on mechanical, electrical-electronic, hydraulic, and pneumatic components in these systems.

In designing a program, students will couple course work in the core curriculum with the courses listed under one of the options. The options are production, business, technical, and processing operations.

Upon graduation, MSYM graduates will:

- have a basic understanding of physical and biological sciences, social sciences, and humanities;
  - have developed essential communication and leadership skills;
  - have a fundamental background in scientific agriculture;
  - understand the function, layout, application, and management of agricultural equipment and mechanized operations;
  - be able to integrate equipment in systems;
  - have an opportunity to specialize in business or further education; and
  - understand that professionalism involves continuing education.

## Core Curriculum

The following courses are required for the mechanized systems management degree program in the Department of Biological System Engineering. In addition to these courses, students must select and meet the requirements of one of the four options.

<b>College Integrative Courses.....</b>	<b>Hours</b>
AGRI/NRES 103 Intro to Agricultural & Natural Resource Systems .....	3
MSYM 462 Equipment Systems <sup>1</sup> .....	3
<b>Mathematics and Statistics.....</b>	<b>5</b>
MATH 102 Trigonometry .....	2
STAT 218 Intro to Statistics or ECON 215 Statistics.....	3
<b>Communication.....</b>	<b>8</b>
BSEN or MECH 130 Computer-aided Design <sup>a</sup> .....	2
Written Communication elective.....	3
Select from: JGEN 200; ENGL 150, 151	
Professional Communication elective.....	3
Select from: JGEN 300; COMM 286	
<b>Natural Sciences.....</b>	<b>16</b>
BIOS 101 & 101L General Biology & Lab .....	4
CHEM 109 General Chemistry.....	4
MSYM 109 & 109L Physical Principles in Agriculture & Lab .....	5
Natural Sciences elective .....	3
Select from: additional biochemistry, biology, chemistry, geography (excluding human and economic), geology, meteorology (excluding 140), or physics and astronomy (excluding 103)	
<b>Economics, Humanities and Social Sciences .....</b>	<b>18</b>
ECON 211 .....	3
ECON 212 or AECN 141.....	3
ACE Courses.....	12
Select one course each from ACE outcomes 5, 7, 8, and 9.	
<b>Major Requirements.....</b>	<b>24</b>
MSYM 162 Equipment Systems Management.....	2
MSYM 245 Electrical Service Systems.....	3
MSYM 312 Engine Power Systems .....	3
MSYM 354 Soil Conservation & Watershed Management.....	3
MSYM 364 Agricultural Products Processing & Handling.....	3
MSYM 416 Sensors & Control Systems for Agriculture .....	3
IMSE 206 Engineering Economics.....	3
SOIL 153 Intro to Soil Resources.....	4
<b>Option Requirements.....</b>	<b>39</b>
<b>Personal Development Electives.....</b>	<b>12</b>
<b>Minimum Credit Hours Required for Graduation .....</b>	<b>128</b>
<i><sup>a</sup>Proficiency with computer applications must be met prior to enrollment through 1) completion of AGRI 271; 2) passing a proficiency examination; or 3) demonstration to appropriate faculty members.</i>	
<b>Production Option</b>	
This option is for students interested in the integration of mechanization and natural resources for production agriculture. Students are prepared to apply principles of mechanization and management in farming and ranching, or in service and consulting. The unique combination of selected courses in animal, crop, soil, and physical sciences, as well as mechanized systems management, prepares enrollees to be successful in production agriculture and related careers. Students in this option may meet teaching certification requirements by early development of an individualized program of study.	
<b>Hours</b>	
<b>Option Requirements.....</b>	<b>39</b>
AGRO 204 Resource-Efficient Crop Management.....	3
AECN 201 Farm & Ranch Management .....	4
AECN 325 Marketing of Agricultural Commodities ..	3
ASCI 250 Animal Management.....	3
Natural Sciences elective .....	4
Select from: additional biochemistry, biology, chemistry, geography (excluding human and economic), geology, meteorology (excluding 140), or physics (excluding 103)	
MSYM electives .....	9
Select three courses from the following:	
MSYM 232 Equipment Principles (3 cr)	
MSYM 342 Animal Housing Systems (3 cr)	
MSYM 412 Hydraulic Power Systems (3 cr)	
MSYM 431 Site-specific Crop Management (3 cr)	
<b>Hours</b>	
<b>Option Requirements.....</b>	<b>39</b>
MSYM 433 Equipment & Tractor Testing (3 cr)	
MSYM 452 Irrigation Systems Management (3 cr)	
Production Agriculture electives.....	8-13
Select from CASNR courses at 200 level or above.	
Option electives .....	0-5
Select from:	
ENTO 115 Insect Biology (3 cr)	
ENTO 116 Insect identification (1 cr)	
MATH 104 Calculus for Managerial & Social Sciences (3 cr)	
MATH 106 Analytic Geometry & Calculus I (5 cr)	
MSYM 395 Internship in Mechanized Systems Management (1-3 cr)	
Business or agricultural economics course	
<b>Business Option</b>	
This option combines the principles of engineered systems and their management with a focus in business, agriculture, and mechanization. Opportunities for employment include operations managers for grain elevators, fertilizer distributors, or construction enterprises; sales representatives for agricultural machinery manufacturers or commodity handling and processing facilities; and agricultural representatives for financial institutions.	
<b>Hours</b>	
<b>Option Requirements.....</b>	<b>39</b>
ACCT 306 Survey of Accounting I .....	4
AGRO 204 Resource-efficient Crop Management or ASCI 250 Animal Management .....	3
MATH 104 Calculus for the Managerial & Social Sciences .....	3
MSYM 232 Equipment Principles.....	3
MSYM 342 Animal Housing Systems.....	3
MSYM 452 Irrigation Systems Management .....	3
Business electives.....	6
Select one course from any two of the following three areas:	
Business Law	
AECN 256 Legal Aspects in Agriculture (3 cr)	
AECN 357 Natural Resources & Environmental Law (3 cr)	
BLAW 371 Legal Environment (3 cr)	
Finance	
AECN 452 Agricultural Finance (3 cr)	
ECON 303 An Intro to Money & Banking (3cr)	
FINA 361 Finance (3 cr)	
Marketing	
AECN 225 Agribusiness & Food Products Marketing (3 cr)	
AECN 325 Marketing of Agricultural Commodities (3 cr)	
MRKT 341 Marketing (3 cr)	
Management electives.....	6-7
Select courses from the following:	
AECN 201 Farm & Ranch Management (4 cr)	
AECN 316 Agribusiness Management (3 cr)	
MNGT 331 Operations & Resources Management (3 cr)	
MNGT 360 Managing Behavior in Operations (3 cr)	
MNGT 361 Personnel/Human Resource Management (3 cr)	
Natural Sciences elective .....	4
Select from: additional biochemistry, biology, chemistry, geography (excluding human and economic), geology, meteorology (excluding 140), or physics (excluding 103)	
Option electives .....	3-4
Select from:	
MSYM 395 Internship in Mechanized Systems Management (1-3 cr)	
AGRI 310 Study Tours in International Agriculture (2-5 cr)	
AGRI 388 Employment Seminar (1 cr)	
Business course	
<b>Technical Option</b>	
Students are prepared for employment as equipment test technicians, service managers or production supervisors of mechanized systems, regional	

## Technical Option

Students are prepared for employment as equipment test technicians, service managers or production supervisors of mechanized systems, regional service representatives, or associates for agricultural

research and extension. Students apply additional mathematics and physical sciences to resolve problems in engineered systems. This option will prepare an individual for graduate study.

Option Requirements.....	Hours
AGRO 204 Resource-efficient Crop Management or ASCI 250 Animal Management .....	3
ENGM 220 Statics.....	3
ENGM 324 Strengths of Materials .....	3
MATH 106 Analytic Geometry & Calculus I.....	5
MNGT 245 Elementary Quantitative Methods.....	3
Management electives .....	6-7
<i>Select courses from the following:</i>	
AECN 201 Farm & Ranch Management (4 cr)	
AECN 316 Agribusiness Management (3 cr)	
MNGT 331 Operations & Supply Chain Management (3 cr)	
MNGT 360 Managing Behavior in Operations (3 cr)	
MNGT 361 Personnel/Human Resource Management (3 cr)	
MSYM electives .....	11-12
<i>Select courses from the following:</i>	
MSYM 232 Equipment Principles (3 cr)	
MSYM 342 Animal Housing Systems (3 cr)	
MSYM 395 Internship in Mechanized Systems Management (1-3 cr)	
MSYM 412 Hydraulic Power Systems (3 cr)	
MSYM 431 Site-specific Crop Management (3 cr)	
MSYM 433 Equipment & Tractor Testing (3 cr)	
MSYM 452 Irrigation Systems Management (3 cr)	
Natural Sciences electives.....	4
<i>Select from: additional biochemistry, biology, chemistry, geography (excluding human and economic), geology, meteorology (excluding 140), or physics (excluding 103)</i>	

## Processing Operations Option

This option provides the principles of mechanization and management for students interested in processing agricultural commodities into food, feed, fiber or fuel. Employment opportunities include the installation and operation of processing equipment and the management of facilities and personnel. This option will prepare an individual for graduate study.

Option Requirements.....	Hours
AGCN 325 Marketing of Agricultural Commodities ... 3	
ASCI 210 Animal Products .....	3
CHEM 110 General Chemistry.....	4
FDST 205 Food Composition & Analysis.....	3
MATH 104 Calculus for Managerial & Social Sciences (3 cr) or MATH 106 Analytical Geometry & Calculus I (5 cr) .....	3-5
MNGT 245 Elementary Quantitative Methods.....	3
MNGT 331 Operations & Supply Chain Management or MNGT 361 Personnel/Human Resource Management.....	3
MSYM 363 Heat & Mass Transfer .....	3
MSYM 412 Hydraulic Power Systems.....	3
MSYM 465 Food Engineering Unit Operations.....	3
Processing electives .....	7-9
<i>Select courses from the following:</i>	
AGRO 437 Animal, Food & Industrial Uses of Grain (2 cr)	
ASCI 410 Processed Meats (3 cr)	
FDST 372 Food Safety & Sanitation (3 cr)	
FDST 403 Food Quality Assurance (3 cr)	
FDST 412 Cereal Technology (3 cr)	
FDST 420 Fruit & Vegetable Technology (3 cr)	
FDST 429 Dairy Products Technology (3 cr)	
MSYM 395 Internship in Mechanized Systems Management (1-3 cr)	

## Mechanized Systems Management Minor

A minimum of 18 credit hours of mechanized systems management course work (excluding MSYM 109) 9 of which must be at the 300 level or above.

### Courses of Instruction (MSYM)

(ACE 4) [ES] 109. **Physical Principles in Agriculture** (4 cr I, II) Lec 3, rct 1. Prereq: MATH 101 or 103 with a grade of C or better completed within the last 11 months; or, placement in MATH 102 or 104 (or higher) within the last 11 months. *Students cannot receive credit for both MSYM 109 and a first course in physics.* Fundamental principles of mechanics, heat, electricity, magnetism and electromagnetism and their relationship to energy utilization and conservation. Principles then applied to problem situations in agriculture.

109L. **Physical Principles in Agriculture Laboratory** (1 cr I, II) Lab 3. Prereq: MSYM 109 or parallel, or PHYS 151.

Laboratory experiments on mechanics, heat, electricity, magnetism and electromagnetism and their relationship to energy utilization and conservation in the agricultural industry.

162. **Equipment Systems Management** (2 cr, I) Lec 1, rct 2. Prereq: MATH 101 or 103 and parallel MSYM 109.

Fundamentals for managing systems of equipment related to agricultural production, handling and processing systems. Productivity, cost estimation and equipment matching. An equipment management case study made.

232. **Equipment Principles** (3 cr II) Lec 2, lab 3. Prereq: MSYM 109 or general physics.

Operational characteristics of field, farmstead materials handling, processing and turf maintenance machines and their components. Includes objective comparisons of performance, principles for alignment and adjustment, calibration of metering systems and standards necessary for effective operational management of machines.

245. **Electrical Service Systems** (3 cr I, II) Lec 2, lab 3. Prereq: MSYM 109 or high school physics.

Utilization of electric energy in agricultural production, processing, and residential applications. Wiring installations; selection of safe and adequate circuit devices; service equipment and conductors; and electric motors and their control; and energy management.

299. **Career Experiences** (1-5 cr, max 12 I, II, III) Prereq: Permission and advanced approval of plan or work. *Pass/No Pass only. Written report usually required.*

Student participation in physical systems applications. May include participation in mechanization-related areas of agribusiness; production practices, and processing operations; research in laboratory, greenhouse and field; or preparation of teaching materials.

312. **Engine Power Systems** (3 cr II) Lec 2, lab 3. Prereq: MSYM 109 or general physics.

Internal combustion engine power systems used in agriculture with primary emphasis on power needs for both mobile and fixed operations, characteristics of power sources and energy resources, and selection and use of power units.

342. **Animal Housing Systems** (3 cr II) Lec 2, lab 2. Prereq: MSYM 109 or general physics.

Production facilities for livestock and poultry will be developed with emphasis on building and feedlot layout, ventilation, heating and cooling systems; energy utilization; and construction materials and methods.

[IS] 354. **Soil Conservation and Watershed Management** (SOIL, WATS 354) (3 cr I) Lec 2, lab 3. Prereq: AGRO/SOIL 153 and MSYM 109 or equivalent.

Watershed hydrology, soil erosion, erosion control, water management, and land surveying and mapping. Includes rainfall-runoff relationships; determination of watershed characteristics; terraces, waterways, vegetative filters, and residue management; ponds, wetlands, non-point source pollution control, and water conservation; profile and topographic surveying.

363. **Heat and Mass Transfer** (FDST 363) (3 cr I) Lec 2, rec 1. Prereq: MATH 104 or 106; MSYM 109 or PHYS 141 or 151. For course description, see FDST 363.

364. **Agricultural Products Processing and Handling** (3 cr I) Lec 2, lab 2. Prereq: MSYM 109 or general physics. Handling, processing and storage and disposal, requirements for grains, feeds, fuels, fertilizers, and pesticides. Emphasis on quality control, standards, safety regulations, and facilities planning for drying, conveying, and storage systems.

395. **Internship in Mechanized Systems Management** (1-3 cr, max 5 I, II, III) Fld. Prereq: Junior standing. Completion of internship approval form is required. The internship proposal is subject to approval by the Department of Biological Systems Engineering. *Pass/No Pass only.* Practical experience, directed learning, and career exploration and development in a selected business, industry, agency, or educational institution.

412/812. **Hydraulic Power Systems** (3 cr I) Lec 2, lab 2. Prereq: MSYM 245 and 312.

Theory and application of fluids under controlled pressure to perform work in mobile and industrial applications. Operation of components and functional planning of circuits with emphasis on troubleshooting and analysis.

[IS] 416/816. **Sensors and Control Systems for Agri-Industries** (3 cr II) Lec 2, lab 2. Prereq: MSYM 245 or permission.

Application of sensors for measurement of process control variables and implementation of microcomputer-based measurement and control systems. Basic electrical and electronic instrumentation plus control of electrically, pneumatically and/or hydraulically powered systems.

431. **Site-specific Crop Management** (AGRO, AGEN 431) (3 cr I) Lec 2, lab 3. Prereq: Senior standing; AGRO/SOIL 153; AGRO 204; or permission.

For course description, see AGRO 431.

433/833. **Equipment and Tractor Testing** (3 cr) Lec 2, lab 2. Prereq: MSYM 312 and STAT 218. *Offered fall semester of even-numbered calendar years.*

Principles and procedures involved in testing agricultural equipment and tractors. Actual test planned, scheduled, conducted and reported. Test may be based upon procedures used at the Nebraska Tractor Testing Laboratory or involve other equipment being used for research in the department.

452/852. **Irrigation Systems Management** (HORT 452/852, WATS 452) (3 cr I) Lec 2, lab 2. Prereq: MSYM 109 or general physics; AGRO/SOIL 153 recommended.

Irrigation management and the selection, evaluation, and improvement of irrigation systems. Includes soil-water measurement, crop water use, irrigation scheduling, irrigation efficiency, measurement of water flow, irrigation systems, groundwater and wells, pumping systems, applying chemicals with irrigation systems, and environmental and water resource considerations. Two laboratory sections are available; one which emphasizes agricultural applications and one which emphasizes horticultural applications.

(ACE 10) 462/862. **Equipment Systems**<sup>1</sup> (3 cr II) Lec 2, rct 2. Prereq: MSYM 162, 312 and 364.

Principles and procedures for planning, scheduling, operating, and controlling the operational aspects of agricultural equipment systems. Advanced cost estimation, optimization and computer analysis techniques are applied to the operations management of equipment systems.

465/865. **Food Engineering Unit Operations** (FDST 465/865) (3 cr II) Lec 2, lab 3. Prereq: FDST/MSYM 363.

For course description, see FDST 465/865.

469/869. **Bio-atmospheric Instrumentation** (AGRO, GEOG, METR, NRES 469/869; HORT 407/807) (3 cr I) Lec 2/lab 1.

Prereq: Junior standing; MATH 106; 4 hrs physics; physical or biological science major. Offered fall semester of odd-numbered calendar years.

For course description, see NRES 469/869.

(ACE 10) 475/875. **Water Quality Strategy**<sup>1</sup> (AGRO, CIVE, CRPL, NRES, GEOL, POLS, SOCI 475/875; SOIL, WATS 475) (3 cr II) Lec 3. Prereq: Senior standing or permission.

For course description, see AGRO 475/875.

496/896. **Principles and Problems in Mechanized Agriculture** (1-5 cr, max 12 I, II, III) Prereq: 15 hours in MSYM or closely related area.

Individual or group projects in research, literature review, or extension of course work under the supervision and evaluation of a departmental faculty member.

**499H. Honors Thesis** (3-6 cr, max 6 I, II, III) Prereq: Admission to the University Honors Program and permission, AGRI 299H recommended. Conduct a scholarly research project and write a University Honors Program or undergraduate thesis.

**832. Mechanized Agricultural Systems** (3 cr) Prereq: Graduate standing or permission. Offered fall semester of odd-numbered calendar years.

**855. Advanced Irrigation Management** (3 cr II) Prereq: MSYM 452/852 or equivalent; AGRO 461/861 recommended.

**898. Special Projects in Management of Mechanized Systems** (1-5 cr, I, II, III) Prereq: 15 hrs in mechanized systems management or closely related area.

## Natural Resource and Environmental Economics

**Coordinator:** Professor Bruce Johnson, Department of Agricultural Economics, 314B Filley Hall

**Natural Resource and Environmental Economics**

**Curriculum Committee:** Lynne, Schoengold, Supalla

The natural resource and environmental economics degree program combines in-depth study of the natural sciences with economics, law, and other social sciences. The program provides students with training in the analysis of the benefits and costs of using natural resources and the environment for a variety of purposes including recreation, agriculture, wildlife habitat, industry, logging, and mining. In addition, the program emphasizes the assessment of public policies regulating the use of natural resources and environmental amenities. Students in this program work closely with faculty in both the agricultural economics department and the School of Natural Resources.

Natural resource and environmental economics students must complete at least 15 credit hours of agricultural economics courses for a grade (not Pass/No Pass).

### Core Requirements

	Hours
<b>College Integrative Course</b> .....	3
NRES/AGRI 103 Intro to Agricultural & Natural Resource Systems.....	3
<b>Mathematics and Statistics</b> .....	6-8
MATH 104 Calculus for Managerial & Social Sciences (3 cr) <b>or</b> MATH 106 Analytic Geometry & Calculus (5 cr) <b>or</b> MATH 106B Calculus I for Biology & Medicine (5 cr).....	3-5
STAT 218 Intro to Statistics <b>or</b> ECON 215 Statistics.....	3
<b>Communications</b> .....	9
Written Communication.....	6
Select from: ENGL 150, 151, 254; JGEN 200, 220, 300	
Oral Communication.....	3
Select from: COMM 209 or 286	
<b>Natural Sciences</b> .....	20-21
AGRO 131 & 132 Plant Science & Lab.....	4
BIOS 101 & 101L General Biology & Lab.....	4
CASNR approved life sciences ( <i>other than BIOS/ NRES 220</i> ).....	4
CHEM 105 Chemistry in Context I <b>or</b> CHEM 109 General Chemistry I.....	4
MSYM 109 Physical Principles of Agriculture (4 cr) <b>or</b> PHYS 141 General Physics (5 cr) <b>or</b> PHYS 151 Elements of Physics (4 cr).....	4-5
<b>Economics, Humanities and Social Sciences</b> ..... 18	
ECON 211 Principles of Macroeconomics.....	3
AECN 141 Intro to the Economics of Agriculture <b>or</b> ECON 212 Principles of Microeconomics.....	3

ACE Courses.....	12
Select one course each from ACE outcomes 5, 7, 8, and 9.	
<b>Total Core Requirements</b> .....	<b>52-55</b>

### Environmental Economics Option

<b>Natural Resources</b> .....	<b>12-14</b>
NRES 220 Principles of Ecology.....	4
Select one from:.....	3-4

NRES 312 Intro to Geospatial Information Sciences (3 cr)	
NRES 412 Intro to Geographic Information (4 cr)	
NRES 418 Remote Sensing (4 cr)	
NRES 323 Natural Resources Policy.....	3
Select one from:.....	3-4

<b>Resource and Economic Development Requirements</b> .....	<b>36</b>
AECN 265 Resource Economics I .....	3
AECN 357 Natural Resources & Environmental Law .....	3
AECN 445 Agriculture & Natural Resources Policy Analysis .....	3
Select 3 major electives selected from: .....	9

AECN 376 Rural Community Economics (3 cr)	
AGRO 489 Urbanization of Rural Landscape (3 cr)	
ECON 340 Urban/Regional Economics (3 cr)	
ECON 371 Public Finance (3 cr)	
ECON 472 Efficiency in Government (3 cr)	
MNGT 360 Managing Behavior in Organizations (3 cr)	
MNGT 361 Personnel/Human Resources Management (3 cr)	
NRES 423 Integrated Resource Management (3 cr)	
SOCI 446 Environmental Sociology (3 cr)	

Social Science electives.....	6
Offered by the Departments of Agricultural Economics, Accounting, Anthropology, Economics, Finance, Geography (except physical geography), Management, Marketing, Political Science, Psychology, Sociology.	
<b>Free Electives</b> .....	<b>23-28</b>
<b>Total Requirements for Graduation</b> .....	<b>128</b>

NOTE: A minimum of 9 hours of course work with an international focus are required as part of the 128 hours. One 3-hour course must be selected from ACE outcome 9. Refer to the *2009-2010 Agricultural Economics Undergraduate Student Handbook* for the remaining 6 hours.

### Energy Economics Option

**Hours Requirements** .....

**Natural Resources**.....

NRES 220 Principles of Ecology.....

    Select one from:.....

NRES 312 Intro to Geospatial Information Sciences (3 cr)

NRES 412 Intro to Geographic Information (4 cr)

NRES 418 Remote Sensing (4 cr)

NRES 323 Natural Resources Policy.....

    Select one from:.....

GEOl 100 Intro to Geology (3 cr)

GEOl 101 Physical Geology (4 cr)

GEOl 106 Environmental Geology (3 cr)

SOIL 153 Soil Resources (4 cr)

WATS 281 Intro to Water Science (3 cr)

METR 200 Weather & Climate (4 cr)

NRES 208 Applied Climate Science (3 cr)

**Resource and Economic Development**.....

AECN 265 Resource Economics I .....

    Select one from:.....

AECN 376 Rural Community Economics (3 cr)

AGRO 489 Urbanization of Rural Landscapes (3 cr)

ECON 340 Urban/Regional Economics (3 cr)

SOCI 446 Environmental Sociology (3 cr)

**Free Electives** .....

**Total Requirements for Graduation** .....

AECN 445 Agriculture & Natural Resources Policy Analysis .....	3
AECN 465 Resource Economics II .....	3
ECON 311 Intermediate Macroeconomics .....	3
ECON 312 Intermediate Microeconomics .....	3
ECON 417 Introductory Econometrics <b>or</b> MNGT 331 Operations & Resource Management <b>or</b> MNGT 245 Elementary Quantitative Methods .....	3

Select 3 major electives selected from: .....	9
AECN 376 Rural Community Economics (3 cr)	
AGRO 489 Urbanization of Rural Landscape (3 cr)	
ECON 340 Urban/Regional Economics (3 cr)	
ECON 371 Public Finance (3 cr)	
ECON 472 Efficiency in Government (3 cr)	
MNGT 360 Managing Behavior in Organizations (3 cr)	
MNGT 361 Personnel/Human Resources Management (3 cr)	
NRES 423 Integrated Resource Management (3 cr)	
SOCI 446 Environmental Sociology (3 cr)	

Social Science electives.....

Offered by the Departments of Agricultural Economics,

Accounting, Anthropology, Economics, Finance,

Geography (except physical geography), Management,

Marketing, Political Science, Psychology, Sociology.

**Energy Analysis**.....

ENSC 110 Energy in Perspective .....

ENSC 220 Intro to Energy Systems .....

ENSC 230 Energy & the Environment Economics & Policy .....

**Free Electives** .....

**Total Requirements for Graduation** .....

128

NOTE: A minimum of 9 hours of course work with an international focus are required as part of the 128 hours.

One 3-hour course must be selected from ACE outcome 9.

Refer to the *2009-2010 Agricultural Economics Undergraduate Student Handbook* for the remaining 6 hours.

### Eco-Business and Sustainability Option

**Hours Requirements**.....

**Natural Resources**.....

NRES 220 Principles of Ecology.....

    Select one from:.....

NRES 312 Intro to Geospatial Information Sciences (3 cr)

NRES 412 Intro to Geographic Information (4 cr)

NRES 418 Remote Sensing (4 cr)

NRES 323 Natural Resources Policy.....

SOIL 153 Soil Resources (4 cr) .....

**Natural Resources and Economics**.....

AECN 265 Resource Economics I .....

    Select one from:.....

AECN 357 Natural Resources & Environmental Law .....

AECN 445 Agriculture & Natural Resources Policy

Analysis .....

    Select 3 major electives selected from: .....

AECN 376 Rural Community Economics (3 cr)

AGRO 489 Urbanization of Rural Landscapes (3 cr)

ECON 340 Urban/Regional Economics (3 cr)

SOCI 446 Environmental Sociology (3 cr)

**Supporting Courses**.....

ACCT 306 Survey of Accounting (4 cr) **or** ACCT 201

    Intro to Accounting I & ACCT 202 Intro to Accounting II (6 cr) .....

    ACCT 425 Agricultural Marketing in a Multinational Environment .....

    ECON 311 Intermediate Macroeconomics .....

    ECON 312 Intermediate Microeconomics .....

    MRKT 341 Marketing .....

    MRKT 443 Consumer Behavior: Marketing Aspects .....

    ECON 417 Introductory Econometrics **or** MNGT

    331 Operations & Resource Management **or**

    MNGT 245 Elementary Quantitative Methods .....

    MNGT 421 Entrepreneurship and Venture Management .....

    FINA 361 Finance .....

    Select one from: .....

    AECN 376 Rural Community Economics (3 cr)

    AGRO 489 Urbanization of Rural Landscapes (3 cr)

    ECON 340 Urban/Regional Economics (3 cr)

    SOCI 446 Environmental Sociology (3 cr)

**Free Electives** .....

**Total Requirements for Graduation** .....

128

**NOTE:** A minimum of 9 hours of course work with an international focus are required as part of the 128 hours. One 3-hour course must be selected from ACE outcome 9. Refer to the 2009-2010 *Agricultural Economics Undergraduate Student Handbook* for the remaining 6 hours.

## Water Economics Option

	Hours
<b>Hours Requirements.....</b>	<b>57-61</b>
<b>Natural Resources.....</b>	<b>12-14</b>
NRES 220 Principles of Ecology.....	3
<i>Select one from:.....</i>	<i>3-4</i>
NRES 312 Intro to Geospatial Information Sciences (3 cr)	
NRES 412 Intro to Geographic Information (4 cr)	
NRES 418 Remote Sensing (4 cr)	
NRES 323 Natural Resources Policy.....	3
<i>Select one from:.....</i>	<i>3-4</i>
GEOL 100 Intro to Geology (3 cr)	
GEOL 101 Physical Geology (4 cr)	
GEOL 106 Environmental Geology (3 cr)	
SOIL 153 Soil Resources (4 cr)	
WATS 281 Intro to Water Science (3 cr)	
METR 200 Weather & Climate (4 cr)	
NRES 208 Applied Climate Science (3 cr)	
<b>Water Science.....</b>	<b>9-11</b>
CIVE 353 Hydrology.....	3
<i>Select two from:.....</i>	<i>6</i>
NRES 488 Groundwater Geology (3 cr)	
WATS 361 Soils, Environment and Water Quality (3 cr)	
WATS 318 Chemistry of Natural Waters (3 cr)	
WATS 452 Irrigation (3 cr)	
WATS 459 Limnology (3 cr)	
WATS 468 Wetlands (3 cr)	
<b>Economics, Law and Policy.....</b>	<b>36</b>
AECN 265 Resource Economics I.....	3
AECN 357 Natural Resources & Environmental Law or AECN 456 Water Law.....	3
AECN 445 Agriculture & Natural Resources Policy Analysis.....	3
AECN 465 Resource Economics II.....	3
ECON 311 Intermediate Macroeconomics.....	3
ECON 312 Intermediate Microeconomics.....	3
ECON 417 Introductory Econometrics or MNGT 331 Operations & Resource Management or MNGT 245 Elementary Quantitative Methods.....	3
<i>Select 3 major electives selected from:.....</i>	<i>9</i>
AECN 376 Rural Community Economics (3 cr)	
AGRO 489 Urbanization of Rural Landscape (3 cr)	
ECON 340 Urban/Regional Economics (3 cr)	
ECON 371 Public Finance (3 cr)	
ECON 472 Efficiency in Government (3 cr)	
MNGT 360 Managing Behavior in Organizations (3 cr)	
MNGT 361 Personnel/Human Resources Management (3 cr)	
NRES 423 Integrated Resource Management (3 cr)	
SOCI 446 Environmental Sociology (3 cr)	
Social Science electives.....	6
<i>Offered by the Departments of Agricultural Economics, Accounting, Anthropology, Economics, Finance, Geography (except physical geography), Management, Marketing, Political Science, Psychology, Sociology.</i>	
<b>Free Electives.....</b>	<b>12-19</b>
<b>Total Requirements for Graduation.....</b>	<b>128</b>

**NOTE:** A minimum of 9 hours of course work with an international focus are required as part of the 128 hours. One 3-hour course must be selected from ACE outcome 9. Refer to the 2009-2010 *Agricultural Economics Undergraduate Student Handbook* for the remaining 6 hours.

## Natural Resource Economics Minor

This minor is intended primarily for students interested in natural resource management who are studying in technical areas such as water science, range science, soils, engineering, or fisheries and wildlife. The intent is to offer technically oriented students an opportunity to develop complementary economics and policy analysis skills.

	Hours
<b>Core Requirements .....</b>	<b>6</b>
<b>Economics</b>	
AECN 265 Resource & Environmental Economics I... 3	
AECN 465 Resource & Environmental Economics II .. 3	
<b>Additional Courses .....</b>	<b>12</b>
<i>Select four from the following:</i>	
AECN 357 Natural Resources & Environmental Law (3 cr)	
AECN 445 Agricultural & Natural Resource Policy Analysis (3 cr)	
ECON 340 Intro to Urban-Regional Economics (3 cr)	
ECON 371 Elements of Public Finance (3 cr)	
ECON 472 Efficiency in Government (3 cr)	
MNGT 360 Managing Behavior in Organizations (3 cr)	
NRES 323 Natural Resources Policy (3 cr)	
NRES 423 Integrated Resources Management (3 cr)	
POLS 236 Public Policy Analysis: Methods & Models (3 cr)	
SOCI 446 Environmental Sociology (3 cr)	
<b>Total .....</b>	<b>18</b>

## Courses of Instruction (NREE)

<b>[ES][IS] 265. Resource and Environmental Economics I</b> (AECN 265) (3 cr I, II) Lec 3. Prereq: ECON 211; ECON 212 or AECN 141. For course description, see AECN 265.
<b>357. Natural Resource and Environmental Law</b> (AECN 357) (3 cr I) Lec 3. Prereq: Junior standing or permission; AGRI/NRES 103 or GEOG 181 recommended. For course description, see AECN 357.
<b>(ACE 8, 10) [IS] 445. Agricultural and Natural Resource Policy Analysis</b> <sup>1</sup> (AECN 445) (3 cr II) Lec 3. Prereq: ECON 211; ECON 212 or AECN 141, ECON 311 and 312 recommended. For course description, see AECN 445.
<b>456. Environmental Law</b> (AECN 456/856) (3 cr II) PSI. Prereq: Junior standing. AECN/NREE 357 recommended. <i>Offered odd numbered years. Available through Extended Education and Outreach.</i> For course description, see AECN 456/856.
<b>457. Water Law</b> (AECN 457/857, WATS 457) (3 cr II) PSI. Prereq: AECN/NREE 357. <i>Offered even numbered years. Available through Extended Education and Outreach.</i> For course description, see AECN 457/857.
<b>465. Resource and Environmental Economics II</b> (AECN 465/865, WATS 465) (3 cr I) Prereq: MATH 104 and one course in statistics. <i>Credit in AECN 865 will not count toward any advanced degree programs in ECON or AECN.</i> For course description, see AECN 465/865.

## Natural Resources

<b>Director:</b> Professor Donald Wilhite, School of Natural Resources, 901 Hardin Hall
<b>Natural Resources Undergraduate Curriculum Committee Chair:</b> Walter-Shea
<b>Professors:</b> Brandle, Comfort, Dewey, Eisenhauer, Hygnstrom, B. Johnson, Schacht, Skopp, Wedin
<b>Associate Professors:</b> Awada, J. Holz, Lenters, Pegg, Powell
<b>Assistant Professors:</b> A. Holz, Tyre
<b>Lecturer:</b> Boehner
<b>Advising Coordinator:</b> Winn

The School of Natural Resources (SNR) is the administrative home to the natural resources programs: Environmental Restoration Science, Environmental Studies (Applied Climate Science emphasis and Natural Resources emphasis), Fisheries and Wildlife, Grassland Ecology and Management, Preforestry and Water Science. These natural resources programs emphasize an

interdisciplinary approach to undergraduate and graduate education while providing students with a strong grounding in the major of their choice. The School of Natural Resources is comprised of faculty from units within the Institute of Agriculture and Natural Resources (IANR), the College of Arts and Sciences, and other University colleges who focus on many critical natural resources and environmental issues.

The degree requirements apply to every program leading to a bachelor of science degree in a natural resources program and reflect the philosophy that there is a common foundation of knowledge essential for professionals in natural resource sciences. The following courses should be completed early because they provide knowledge of the basic principles for more specialized courses. The curriculum of each program incorporates the minimum requirements for the bachelor of science degree in a natural resources program.

The specific requirements for each program are listed under each program description. These degrees are: fisheries and wildlife, environmental restoration science, grassland ecology and management, environmental studies (natural resources and applied climate science emphases), water science, natural resource and environmental economics and pre-forestry.

## Scholarships and Financial Aid

The School of Natural Resources annually awards scholarships to freshmen and upperclassmen worth more than \$25,000. Scholarship awards are made possible through generous gifts of alumni, local and state organizations and private donors.

Most SNR scholarships are based on academic performance and do not require an application. A number of scholarships are available. For more information on these scholarships contact the Natural Resources advising coordinator at 402/472-0636 or visit <http://snr.unl.edu>.

## Academic Advising

Students are assigned a faculty advisor after admission into their programs. The advisor serves as a resource regarding the degree, academic plans and progress, and career options. Students are encouraged to regularly consult with their advisor, especially before registering for classes. The Natural Resources advising coordinator assist the faculty advisors with student consultations, is a resource for internship and employment opportunities, and will assist students in reviewing their academic records and course options.

## Natural Resources Requirements

The curriculum of each natural resources program incorporates the minimum requirements outlined below. The specific requirements for each program are listed under each program bulletin listing. Students planning to transfer from other colleges or who are undecided about their major fields of interest should use these requirements as a guide. Early selection of a program is strongly encouraged in order to enhance the timely completion of the student's program.

	Hours
<b>Natural Resources .....</b>	<b>21-23</b>
AGRI/NRES 103 Intro to Agricultural & Natural Resource Systems .....	3
Senior Capstone Course .....	3
Geographic Information Science Course (NRES 312, 412, or 418) .....	3-4
NRES 220 Principles of Ecology .....	3
NRES 323 Natural Resources Policy .....	3
Earth Science Course (GEOL 100, 101, 106; METR 200; NRES 108, 208; SOIL 153; WATS 281) .....	3-4
Natural Resources & Environmental Economics (NREE 265, 465) .....	3
<b>Mathematics and Statistics .....</b>	<b>5</b>
Select from: MATH 102, 104, 106 and STAT 218.	
NOTE: Proficiency at the college algebra level must be demonstrated either by a placement exam or through course work. If MATH 103 is taken, only 2 cr hrs can be counted toward this requirement.	
<b>Natural Sciences.....</b>	<b>16-17</b>
BIOS 101 & 101L General Biology & Lab or BIOS 102 Cell Structure & Function or AGRO 131 & 132	
Plant Science & Lab .....	4
CASNR approved life sciences (other than BIOS 220) .....	4
CHEM 105 Chemistry in Context I or CHEM 109	
General Chemistry I .....	4
PHYS 141 Elementary General Physics (5 cr) or PHYS 151 Elements of Physics (4 cr) or PHYS 211	
General Physics (4 cr) or MSYM 109 Physical Principles in Agriculture (4 cr) .....	4-5
<b>Communication.....</b>	<b>9</b>
Written Communication .....	3
Oral Communication .....	3
Communication and Interpersonal Skills electives....	3
<b>Economics, Humanities and Social Sciences .....</b>	<b>18</b>
ECON 211 or ECON 212 or AECN 141 .....	3
ACE Courses.....	12
Select one course each from ACE outcomes 5, 7 and 9.	
Select one elective in this area.....	3
<b>Required Credit Hours in Minimum Requirements .....</b>	<b>69</b>
<b>Major Requirements and Electives.....</b>	<b>59</b>
<b>Minimum Credit Hours Required for Graduation ..</b>	<b>128</b>

Courses of instruction in the natural resources programs provide students with the tools to describe the characteristics of natural resource systems which include the atmosphere, hydrosphere, geosphere and biosphere. In addition, graduates of these programs are expected to be able to understand the interactions among natural resource systems and to evaluate the impacts of humans as stewards and managers of these systems. Along with this technical expertise, each student will develop problem solving and communications skills which will enable them to take their place as a professional in a diversity of natural resources careers.

For more information on the School of Natural Resources and the natural resources degree programs contact 402/472-7471 or visit <http://snr.unl.edu>.

## Courses of Instruction (NRES)

**101. Natural Resources Orientation** (1 cr) Lec 1. *NRES 101 requires field exercises in terrestrial and aquatic ecosystems. Pass/No Pass only.*

Introduction to natural resource disciplines. Fisheries, wildlife, forestry, grasslands, climate, and water science.

[ES][IS] **103. Introduction to Agriculture, and Natural Resource Systems** (AGRI 103, LIBR 110A) (3 cr I, II) Lec 2, disc 1. For course description, see AGRI 103.

**104. Climate in Crisis** (3 cr II) Lec 3.

Past, present and future climate change. Climate science basics in the context of global changes (such as global warming, droughts, deforestation) that impact Earth and its inhabitants. Future climate change scenarios and possible impacts.

**105. Justin Smith Morrill Scholars Seminar** (1 cr I) Lec 1. *NRES 105 is open to Justin Smith Morrill Scholars Program students only.* The life, experience, and accomplishments of Justin Smith Morrill, author of the Land-Grant College Acts of 1862 and 1890. The role of the Land-Grant University in the modern era.

(ACE 4) [ES] **108. Earth's Natural Resource Systems Laboratory** (3 cr) Lab.

Introduction to Earth's natural resource systems. Interactions between the geosphere (solid earth) and the hydrosphere. The atmosphere and biosphere over many different spatial and temporal scales, and role of humans as part of the system.

**110. Exploring Plant Biology** (AGRO, HORT 110) (1 cr) Lec, rct. For course description, see AGRO 110.

[ES] **170. Introduction to Great Plains Studies** (ANTH, GEOG, GPSP, SOCI 170) (3 cr) *Required for Great Plains Studies majors and minors.*

For course description, see GPSP 170.

[ES] **208. Applied Climate Sciences** (3 cr I) Lec 3.

Role of the atmosphere in the natural resource system. Solar radiation, water, wind and energy, hazards and risk in the plant-soil atmosphere system. Role of weather and climate in crop zones, land use, and wildlife habitat.

[ES][IS] **211. Introduction to Conservation Biology** (3 cr I) Lec 3. Prereq: Sophomore standing.

Introduction to problems faced in fulfilling the ever increasing human needs while maintaining ecosystem and biodiversity. The integration of biological fields such as wildlife biology, ecology, evolution, and genetics with non-biological fields such as economics, philosophy, and politics to the dilemma this presents.

**212. Landscape Plants I** (HORT, LARC 212) (3 cr I) Lec 2, rct 1.

Prereq: HORT 130. Requires Saturday off-campus field trips. For course description, see HORT 212.

**213. Landscape Plants II** (HORT, LARC 213) (3 cr II) Lec 2, lab 2. Prereq: HORT/LARC/NRES 212. *HORT/NRES 213 is a continuation of HORT/LARC/NRES 212.*

For course description, see HORT 213.

**214. Herbaceous Landscape Plants** (HORT 214) (3 cr I) Lec 2, rct 1. Extensive field trips are required.

For course description, see HORT 214.

[ES] **220. Principles of Ecology** (BIOS 220) (3 cr) Lec 3. Prereq: 4 hrs BIOS; MATH 101 or 103. *NRES/BIOS 220 is not open to students who have completed BIOS 207. NRES/BIOS 220 will not count toward a major in biological sciences.*

Ecology as a quantitative discipline that integrates the life and earth sciences to understand the dynamics of natural and managed ecosystems.

[ES] **222. Ecology Laboratory** (BIOS 222) (1 cr) Lab 4. Prereq: NRES/BIOS 220 or parallel. May also be offered at Cedar Point Biological Station. *Field trips to local ecosystems are required.*

*Field and laboratory experiments in terrestrial and aquatic ecology.*

**270. Biological Invaders** (PLPT/HORT/NRES 270) (3 cr I) Prereq: 3 hrs biological sciences.

For course description, see PLPT 270.

**279. Soil Evaluation** (AGRO, SOIL 279) (1 cr, max 3 I, II)

For course description, see SOIL 279.

[ES][IS] **281. Introduction to Water Science** (GEOG, WATS 281) (3 cr) Prereq: High school chemistry or one semester college chemistry; one course in geology or physical geography or soil.

For course description, see WATS 281.

**299. Special Topics** (1-4 cr, max 4) Lec. Prereq: Permission. Special topics in natural resources.

**300. Toxins in the Environment** (BIOS, ENTO 300) (2 cr II) Lec 2. Prereq: One semester BIOS and one semester CHEM. Offered spring semester of even-numbered calendar years.

For course description, see ENTO 300.

**308. Biogeography** (GEOG, GEOL 308) (3 cr) Lec 3. Prereq: GEOG 155 or BIOS 101 or GEOL 101. *Biogeography (GEOG/GEOL/NRES 308) is a highly interdisciplinary science, relying heavily on ecology, geological science, and climatology. It is global in scope and offers the latest knowledge in understanding organism distributions, and the factors that determine those distributions.*

For course description, see GEOG 308.

**310. Introduction to Forest Management** (4 cr) Lec 3, lab 4. Prereq: BIOS 109 or permission. One all-day Saturday field trip is required.

Discussion of the history, biology, and management of the world's forest resources with emphasis on the Great Plains region. Topics include: forest types and their relationship to site conditions, ecological principles of forest management, basic forest management practices, economic and policy decisions in forest management. The field-oriented lab emphasizes tree identification, forest ecology, forest management and wood products.

**311. Wildlife Ecology and Management** (3 cr II) Lec 2, rec 1. Prereq: BIOS/NRES 220 and BIOS 222.

Advanced wildlife ecology, conservation biology, population biology, and enhancement of wildlife populations through management. Emphasis on both game and nongame species.

**312. Introduction to Geospatial Information Sciences**

(GEOG 312) (3 cr II) Lec 2, lab 2. Prereq: Junior standing; basic computer skills (spreadsheets, word processors, data and file management).

Introduction to the theory and applications of geospatial information technology. Remote sensing, GPS data collection, GIS data types, editing GIS data, and spatial data analysis with emphasis on applications to natural resources using a problem-based learning format.

**316. Case Studies in Theoretical Ecology** (BIOS, MATH 316) (3 cr) Lec 3. Prereq: Permission. *Case studies are structured around preparation for subsequent independent research (BIOS 498 or MATH 496).*

For course description, see BIOS 316.

(ACE 6) [ES][IS] **323. Natural Resources Policy** (3 cr I) Lec 3.

Prereq: Junior standing.

Conflicts and common ground perpetuated by increasing demands on our natural resources. Policy development and issue analysis stressed. Historical policy actions reviewed and evaluated.

**348. Wildlife Damage Management** (3 cr II) Lec, lab.

Fundamentals of prevention and control of damage caused by vertebrate pests, principally birds and mammals. Philosophical, ecological, and behavioral basis for controlling population levels or individuals of pest species.

**361. Soils, Environment and Water Quality** (AGRO, GEOL, SOIL, WATS 361) (3 cr II) Lec 3. Prereq: AGRO/HORT/SOIL 153; MATH 102 or 103; and one semester CHEM or equivalent. For course description, see SOIL 361.

[ES][IS] **370. Basic and Applied Climatology** (METR 370) (3 cr) Lec 3. Prereq: METR 200.

Processes that give rise to spatial and temporal differences in climate. Various interrelationships between humans and climate. Influence of climate on building styles, the economy, water resources, human health, and society. Humans' inadvertent and purposeful modification of the atmosphere.

(ACE 9) [ES][IS] **385. Women, Gender and Science** (WMNS, AGRI 385) (3 cr) Lec 3.

For course description, see WMNS 385.

**386. Vertebrate Zoology** (BIOS 386) (4 cr) Lec 3, lab 3. Prereq: BIOS 101, 101L, and 112; or BIOS 103. *BIOS/NRES 386 requires field trips and includes trips outside of normal class time.*

For course description, see BIOS 386.

**388. Employment Seminar** (AGRI 388) (1 cr I) Lec 1. Prereq: Sophomore standing. *Pass/No Pass only.*

For course description, see AGRI 388.

**389. Introduction to Landscape Ecology** (LARC 389) (3 cr) Lec 2, lab 2. Prereq: AGRO/HORT/SOIL 153 and BIOS/NRES 220, HORT/LARC/GEOG 200, CIVE 353/853/NRES 853, and CRPL 470 recommended.

For course description, see LARC 389.

**399. Independent Research** (1-5 cr, max 6) Ind. Prereq: 8 hrs NRES or closely related areas. *NRES 399 is to be supervised and evaluated by a NRES faculty member.*

Research, literature review, or extension of course work.

**402/802. Aquatic Insects** (BIOS 485/885; ENTO 402/802) (2 cr II) Lec 2. Prereq: 12 hrs biological sciences or permission.

For course description, see ENTO 402/802.

**402L/802L. Identification of Aquatic Insects** (BIOS 485L/885L; ENTO 402L/802L) (1 cr II) Lab 1. Prereq: Parallel ENTO/NRES 402/802/BIOS 485/885.  
For course description, see ENTO 402L/802L.

**404. Forestry, Fisheries and Wildlife Seminar** (1 cr per sem, max 2 cr II) Lec 4. Prereq: Junior standing or above in natural resources or permission.  
Seminar involving technical aspects of forestry, fisheries, and wildlife management.

**406/806. Plant Ecophysiology: Theory and Practice** (AGRO, HORT 406/806) (4 cr) Lec 3, lab 1. Prereq: Junior standing; 4 hrs ecology; and 4 hrs botany or plant physiology. *Offered fall semester of even-numbered calendar years.*  
Principles of plant physiology which underlie the relationship between plants and their physical, chemical and biotic environments. An introduction to the ecological niche, limiting factors and adaptation. An overview of the seed germination and ecology, plant and soil water relations, nutrients, plant energy budgets, photosynthesis, carbon balance and plant-animal interactions. An introduction to various field equipment used in ecophysiological studies.

**408/808. Microclimate: The Biological Environment** (AGRO, GEOG, HORT, METR 408/808; WATS 408) (3 cr) Prereq: Junior standing, MATH 106 or equivalent, 5 hrs physics, major in any of the physical or biological sciences or engineering; or permission.

Physical factors that create the biological environment. Radiation and energy balances of earth's surfaces, terrestrial and marine. Temperature, humidity, and wind regimes near the surface. Control of the physical environment through irrigation, windbreaks, frost protection, manipulation of light, and radiation. Applications to air pollution research. Instruments for measuring environmental conditions and remote sensing of the environment.

**412/812. Introduction to Geographic Information Systems** (GEOG 412/812) (4 cr) Lec 3, lab 2.  
For course description, see GEOG 412/812.

**[ES][IS] 413/813. Environmental Leadership** (ALEC 410/810) (3 cr) Lec.  
For course description, see ALEC 410/810.

**415/815. Water Resources Seminar** (AGRO, GEOG 481/881; GEOL 415/815) (1 cr II) Prereq: Junior standing or above, or permission.  
For course description, see AGRO 481/881.

**416/816. Veterinary Entomology/Ectoparasitology** (ASCI, ENTO, VBMS 416/816) (2 cr II) Lec 2. Prereq: 10 hrs entomology or biological science or related fields or permission.  
For course description, see ENTO 416/816.

**416L/816L. Veterinary Entomology/Ectoparasitology Lab** (ASCI, ENTO, VBMS 416L/816L) (1 cr II) Prereq: ENTO/ASCI/NRES/VBMS 416/816; or parallel.  
For course description, see ENTO 416L/816L.

**417/817. Agroforestry Systems in Sustainable Agriculture** (HORT 418/818) (3 cr) Lec 3. Prereq: 12 hours biological or agricultural sciences. At least one course in production agriculture and one course in natural resources is strongly suggested. *Offered odd-numbered calendar years.*

The roles of woody plants in sustainable agricultural systems of temperate regions. Emphasis on the ecological and economic benefits of trees and shrubs in the agricultural landscape. Topics include: habitat diversity and biological control; shelterbelts structure, function, benefits and design; intercropping systems; silvopastoral systems; riparian systems; and production of timber and specialty crops. Comparison of temperate agroforestry systems to those of tropical areas.

**418/818. Introduction to Remote Sensing** (GEOG 418/818) (4 cr) Lec 3, lab 2. Prereq: 9 hrs earth science or natural resource sciences including GEOG 150 and 152, or 155.  
For course description, see GEOG 418/818.

**419/819. Chemistry of Natural Waters** (GEOL 418/818, WATS 418) (3 cr II) Lec 3. Prereq: Two semesters of college chemistry, or CHEM 109 and 110, 113 and 114, or CHEM 111; or permission.  
For course description, see GEOL 418/818.

**419L/819L. Chemistry of Natural Waters Laboratory** (GEOL 418/818L, WATS 418L) (1 cr II) Prereq: Two semesters college chemistry or permission. Parallel: GEOL 418/818, NRES 419/819, WATS 418. *Offered even numbered calendar years or as needed.*  
For course description, see GEOL 418L/818L.

**420/820. Applications of Remote Sensing in Agriculture and Natural Resources** (AGRO, GEOG, GEOL 419/819) (4 cr) Lec 3, lab 2. Prereq: GEOG/NRES 418/818 or permission.  
For course description, see GEOG 419/819.

**421/821. Field Techniques in Remote Sensing** (GEOG 421/821) (3 cr II) Lec 2, lab. Prereq: NRES 418/818.

Field techniques as they relate to remote-sensing campaigns. Research methods, systematic approaches to data collection, field spectroscopy, collecting ancillary information linked with spectroscopic data sets as well as aircraft or satellite missions and subsequent analyses of acquired data.

**422/822. Laboratory Earth: Earth's Changing Systems** (3 cr) Lec 3. Fundamental concepts related to understanding Earth's changing natural systems in the past, present, and the future. The cycling of matter and energy; the relationship between human activity and environmental change; and the consequence of these relationships.

**[IS] 423/823. Integrated Resources Management**<sup>1</sup> (3 cr II) Lec 3. Prereq: Senior standing, natural resources or related major; or permission.

Integrated and multiple-use management. Economic, political, social, and physical impacts on natural resources management priorities.

**424/824. Forest Ecology** (4 cr II) Lec 3, lab 3, fld. Prereq: / NRES/BIOS 220. *Requires a weekend field trip to forested sites in Nebraska.*

Ecology of North American forests. Woodland and savanna vegetation in the Great Plains. Identification of native trees and shrubs.

**426/826. Invasive Plants** (AGRO, HORT 426/826) (3 cr II) Lec 2, lab 2. Prereq: AGRO/HORT/SOIL 153; BIOS 109.  
For course description, see AGRO 426/826.

**[IS] 428/828. Leadership in Public Organizations** (ALEC 428) (3 cr II) Lec 3. Prereq: Junior standing.

Leadership in theories, research, and practices in public organizations and natural resource agencies.

(ACE 10) **[IS] 433/833. Wildlife Management Techniques** (4 cr I, III) Lec 3, lab 3. Prereq: NRES 311. *Offered in fall of even-numbered years. Offered in summer of odd-numbered years at Cedar Point Biological Station.*

Survey of quantitative techniques used in wildlife management. Scientific method of wildlife science; surveys; habitat use and classification; forensic methods; and population inventories. Introduction to the use of computer-based geographic information systems (GIS) in a natural resource context.

**435/835. Agroecology** (AGRO, HORT 435/835) (3 cr II) Lec 3. Prereq: For AGRO/HORT/NRES 435; Senior standing or permission. For AGRO/HORT/NRES 835: 12 hrs biological or agricultural sciences or permission. *Team projects for developing communication skills and leadership skills.*  
For course description, see AGRO 435/835.

**445/845. Human Remains in Forensic Science** (FORS 445/845) (4 cr I) Lec 2, lab 2. Prereq: FORS 120.

Forensic anthropology within the broader context of forensic sciences and physical anthropology. Decomposition and bone modification through artificial means. Determination of individual identity, diet, chronic pathology and cause of death from human remains.

**446/846. Pollen Analysis for Behavioral, Biological, and Forensic Science** (FORS 446/846) (4 cr I) Lec 2, lab 2. Prereq: BIOS 109 and FORS 120.

Collection, processing, identification of common North American pollen types. Pollination ecology relating to scene reconstruction. Fundamental statistics and presentation requirements for a legal and scientific audience.

**448/848. Advanced Topics in Wildlife Damage Management** (2 cr II) Lec 2. Prereq: NRES 348. *Participation in a three day professional conference is strongly encouraged.*

Economic, global, and public policy issues relative to situations in which wildlife damage personal property or natural resources, threaten human health and safety, or are a nuisance.

Demonstration and discussion of technological advances in fertility control, damage resistance, toxicology, behavioral modification, and biological management.

**450/850. Biology of Wildlife Populations** (BIOS 450/850) (4 cr II) Lec 3, lab 3. Prereq: BIOS 220 or permission.

Principles of population dynamics. Management strategies (for consumptive and nonconsumptive fish and wildlife species) presented utilizing principles developed.

**451/851. Soil Environmental Chemistry** (ENVE \*851) (3 cr II, offered even-numbered calendar years) Lec 3. Prereq: CHEM 252. Theory, mechanisms and processes related to chemical behavior in soil-water environments. Application of computer simulation models for predicting contaminant fate in soil. Basic chemical and biological principles of remediating contaminated soil and water.

**452/852. Climate and Society** (AGRO, GEOG, METR 450/850) (3 cr) Prereq: METR 200 or 351 or equivalent, or permission. Offered spring semester of even-numbered calendar years.

Impact of climate and extreme climatic events on society and societal responses to those events. Global in scope and interdisciplinary.

**454/854. Ecological Interactions** (BIOS 454/854) (4 cr) Lec 3, lab 4. Prereq: BIOS 220 or equivalent. *May also be offered at Cedar Point Biological Station.*  
For course description, see BIOS 454/854.

**455/855. Soil Chemistry and Mineralogy** (AGRO 455/855; SOIL 455) (3 cr I) Lec 3. Prereq: AGRO/HORT/SOIL 153 or GEOL 101; CHEM 109 and 110; CHEM 221 or 251 or equivalent.  
For course description, see AGRO 455/855.

**456/856. Mathematical Models in Biology** (BIOS 456/856) (3 cr) Lec 3. Prereq: Junior or senior standing in biological sciences, MATH 106 or 107 or permission.  
For course description, see BIOS 456/856.

**457/857. Soil Chemical Measurements** (SOIL 457, AGRO 457/857) (2-3 cr, max 3 I) Lec 2, lab 4-6. Prereq: AGRO 153, CHEM 116 or 221 or equivalent or permission. Permission required to register for 2 cr. *Students registered for 3 cr will design, carry out, and report on an independent study project conducted during the semester. Offered even-numbered calendar years.*  
For course description, see AGRO 457/857.

**458/858. Soil Physical Determinations**<sup>1</sup> (SOIL 458, AGRO 458/858) (2 cr I) Lab 3, plus 3 hrs arr. Prereq: SOIL/AGRO/GEOL/WATS 361; PHYS 141 or equivalent; MATH 102 or 103. *Graduate students in NRES/AGRO 458/848 or SOIL 458 are expected to carry out an independent project and give an oral report.*  
Survey of measurement techniques and principles used in characterizing the physical properties of soils. Includes analysis of experimental design and sources of experimental error. Techniques included: particle size analysis, soil water content, pore size analysis, field sampling techniques, soil strength, and saturated hydraulic conductivity.

**[IS] 459/859. Limnology** (BIOS 459/859, WATS 459) (4 cr II) Lec 3, lab 4. Prereq: 12 hrs BIOS, including BIOS/NRES 220; two semesters CHEM. *May also be offered at Cedar Point Biological Station.*

Physical, chemical, and biological processes that occur in fresh water. Organisms occurring in fresh water and their ecology; biological productivity of water and its causative factors; eutrophication and its effects.

**460/860. Soil Microbiology** (AGRO 460/860, BIOS 447/847, SOIL 460) (3 cr II) Lec 3. Prereq: One semester microbiology; one semester biochemistry or organic chemistry.  
For course description, see AGRO 460/860.

**461/861. Soil Physics** (AGRO, GEOL 461/861; SOIL, WATS 461) (3 cr I) Lec 3. Prereq: AGRO/SOIL 153; PHYS 141 or equivalent; one semester of calculus. Recommended: Parallel AGRO/NRES/SOIL 458.

Principles of soil physics. Movement of water, air, heat, and solutes in soils. Water retention and movement, including infiltration and field water regime. Movement of chemicals in soils.

(ACE 10) **[IS] 463/863. Fisheries Science** (4 cr I) Lec 3, lab 3. *May also be offered at Cedar Point Biological Station.*  
Fisheries biology emphasizing the determination and evaluation of vital statistics for the management of fish populations. Basis of specific management techniques.

**464/864. Fisheries Biology** (BIOS 464/864) (3 cr) Lec 3. Prereq: BIOS/NRES 489/889 or equivalent. Biology of fishes. Factors that affect fishes in the natural environment. Techniques used in the analysis and management of fish populations.

**465/865. Soil Geomorphology and Paleopedology** (GEOL 465/865) (3 cr) Lec 2, lab 3. Prereq: GEOL 450/850 and NRES 477/877; or permission. *Two field trips required.* For course description, see GEOL 465/865.

**467/867. Global Climate Change** (METR 483/883) (3 cr I) Lec 3. Prereq: Junior standing; MATH 106/106B/108H; 5 hrs PHYS; METR 475/875. *METR 483/883/NRES 467/867 is offered fall semester of even-numbered calendar years.* For course description, see METR 483/883.

**468/868. Wetlands** (BIOS 458, WATS 468) (4 cr II) Lec 4. Prereq: 12 hrs biological sciences; BIOS 220; CHEM 109 and 110. *Offered even-numbered calendar years.*

Physical, chemical and biological processes that occur in wetlands; the hydrology and soils of wetland systems; organisms occurring in wetlands and their ecology wetland creation, delineation, management and ecotoxicology.

**469/869. Bio-atmospheric Instrumentation** (AGRO, GEOG, MSYM, METR 469/869; HORT 407/807) (3 cr I) Lec 2/lab 1. Prereq: Junior standing; MATH 106; 4 hrs physics; physical or biological science major. *Offered fall semester of odd-numbered calendar years.*

Discussion and practical application of principles and practices of measuring meteorological and related variables near the earth's surface including temperature, humidity, precipitation, pressure, radiation and wind. Performance characteristics of sensors and modern data collection methods are discussed and evaluated.

**470. Lake and Reservoir Restoration** (3 cr II) Lec 3. Prereq: 12 hrs NRES or related fields. *NRES 470 is offered in even-numbered calendar years.*

Theory, processes, and mechanisms underlying lake and reservoir water quality degradation and/or pollution and remediation of eutrophication and its effects. Current techniques used to restore and protect degraded lakes.

**474/874. Herpetology** (BIOS 474) (4 cr) Lec 4. Prereq: BIOS/NRES 386 and permission. BIOS 388 recommended. *May also be offered at Cedar Point Biological Station.*

Fossil and living amphibians and reptiles. Anatomy, classification, ecology and evolution.

**(ACE 10) 475/875. Water Quality Strategy** (AGRO, CIVE, CRPL, GEOL, MSYM, POLS, SOCI 475/875; SOIL, WATS 475) (3 cr II) Lec 3. Prereq: Senior standing or permission. For course description, see AGRO 475/875.

**476/876. Mammalogy** (BIOS 476/876) (4 cr) Lec 3, lab 3. Prereq: 8 hrs BIOS; BIOS/NRES 386 or NRES 311. *May also be offered at Cedar Point Biological Station. Field trips are required and may occur outside of scheduled class time. Lab and field time emphasize diversity of mammalian families and species identification of Nebraska mammals.*

Evolution, natural history, ecology, and functional morphology of planetary mammals and mammals of the Northern Great Plains.

**[IS] 477/877. Great Plains Field Pedology** (AGRO 477/877, GEOG 467/867, SOIL 477) (4 cr II) Lec 3. Lab. Prereq: AGRO/SOIL 153 or permission.

Spatial relationship of soil properties on various parts of landscape typical of the Plains, causal factors, and predictions of such relationships on other landscapes. Grouping these properties into classes, naming the classes, and the taxonomy that results from this grouping. Application of a taxonomy to a real situation through making a field soil survey in a region representative of the Plains border, predicting land use response of various mapped units as it affects the ecosystem, and evaluating the effectiveness of the taxonomic system used in the region surveyed.

**[IS] 478/878. Regional Climatology** (METR 478/878) (3 cr) Lec 3. Prereq: NRES/METR 370.

Regional differentiation of the climates of the earth on both a descriptive and dynamic basis. The chief systems of climatic classification.

**488/888. Groundwater Geology** (GEOL 488/888) (3 cr) Prereq: GEOL 100-level course; MATH 106 or equivalent. Occurrence, movement, and development of water in the geologic environment.

**489/889. Ichthyology** (BIOS 489/889) (4 cr II) Lec 3, lab 4. Prereq: 12 hrs biological sciences. *May also be offered at Cedar Point Biological Station.*

For course description, see BIOS 489/889.

**492/892. Study Tours in Natural Resource Management** (1-3 cr, max 6) Fld. Prereq: Permission. *Off-campus travel may be required. Choice of subject matter and coordination of on- and off-campus study is at the discretion of the instructor*

Group educational tours to specific sites that illustrate aspects of natural resources management.

**495. Grasslands Seminar** (AGRO, ENTO, GRAS, HORT, RNGE, SOIL 495) (1-2 cr, max 4 cr I) Prereq: Junior standing. For course description, see GRAS 495.

**496/896. Independent Study** (1-5 cr, max 12 I, II, III) Ind. Prereq: 12 hrs natural resource sciences or closely-related fields, and permission.

Individual or group projects in research, literature review, or extension of course work.

**497/897. Career Experiences in Natural Resource Sciences** (1-6 cr, max 6, I, II, III) Prereq: Sophomore standing; School of Natural Resources (SNR) majors; permission and advanced approval of a plan of work. *Internships are coordinated by School of Natural Resources faculty and administered through the UNL Student Employment and Internship Center.*

Off-campus work experiences sponsored by natural resource agencies, companies, and organizations. Students collaborate in the development of a plan of work that will identify student responsibilities, including a final written report.

**498/898. Special Topics in Natural Resources** (1-6 cr, max 12) Lec. Prereq: 6 hrs NRES or equivalent. Current issues in natural resource sciences.

**499. Thesis Research** (3-6 cr, max 6) Ind. Prereq: Permission of thesis adviser. NRES 499 requires conducting a scholarly research project and writing an undergraduate thesis.

**499H. Honors Thesis** (3-6 cr, max 6 I, II, III) Prereq: Admission to the University Honors Program and permission, AGRI 299H recommended.

Conduct a scholarly research project and write a University Honors Program or undergraduate thesis.

**807. Plant-Water Relations** (AGRO 807, BIOS 817) (3 cr I) Lec 3. Prereq: BIOS 325 or equivalent, MATH 106 recommended, or permission.

**809. Laboratory Earth: Earth and Its Systems** (3 cr) Lec, lab.

**810. Landscape Ecology** (HORT 812) (3 cr) Lec 3, lab. Prereq: 12 hrs biological sciences or related field including BIOS 220, or permission.

**811. Plant Tissue Culture** (BIOS, HORT 811) (4 cr II) Lec 2, lab 4. Prereq: BIOS 109; AGRO 325 which includes CHEM 109 and 110 and BIOC 211; or equivalent.

**814. Laboratory Earth: Earth's Natural Resource Systems** (3 cr) Lec, lab.

**825. Geostatistics** (GEOL 825) (3 cr I) Prereq: MATH 106 and STAT 218. Offered fall semester of odd-numbered calendar years.

**849. Woody Plant Growth and Development** (HORT, BIOS 849) (3 cr I) Lec 2. Prereq: CHEM 251; AGRO 325. *Offered fall semester of even-numbered calendar years.*

**853. Hydrology** (CIVE 353/853) (3 cr) Prereq: MATH 106, not available for credit for engineering students.

**862. Conservation Biology** (3 cr II) Prereq: 12 hrs biological sciences, including BIOS 220 or AGRO 315 or equivalent.

**866. Advanced Limnology** (BIOS 860) (3 cr I) Lec 3. Prereq: NRES 459/859 or equivalent.

**873. Ecological Anthropology** (ANTH 473/873) (3 cr) Lec.

**883. Ecological Economics** (AECN 883) (3 cr) Prereq: AECN 141 or ECON 212 or equivalent. Graduate students with AECN/ECON 873 or equivalent are encouraged to enroll with the course of study customized to individual needs.

**887. Hydrogeology** (GEOL 889) (3 cr) Prereq: GEOL 488, MATH 208.

**891. Seminar in Natural Resource Sciences** (1 cr, max 2 I, II) Lec 1.

Presentations of special non-thesis topics and/or research plans and/or thesis research results.

**899. Masters Thesis** (6-10 cr I, II, III)

## Plant Biology

**Steering Committee:** Paparozzi (chair) (agronomy and horticulture), Lee (agronomy and horticulture), Mackenzie (agronomy and horticulture, biological sciences), Markwell (biochemistry), Osterman (biological sciences), Powers (plant pathology), Schacht (agronomy and horticulture), Wedin (natural resources)

**Chief Academic Adviser:** Lee (agronomy and horticulture)

**Website:** <http://plantbiology.unl.edu/>

The plant biology degree program provides flexible entry for undergraduate students that have an interest in the plant sciences. Once enrolled in the program, students will take a core of classes that will allow them to continue in the plant biology degree program or allow them to easily transfer to other Life Sciences programs. Students will have the opportunity to interact with the faculty of the Plant Science Initiative as well as the above departments and schools for advising and research opportunities.

Studying plant biology will allow students to explore their knowledge of plants at the: 1) molecular (biotechnology option), 2) cellular and organismal (biological, biochemical/chemical sciences), 3) whole plant/applied physiological (horticulture and agronomy courses), and 4) ecological levels (ecology and management option). Students may select a bachelor of science track through the College of Agricultural Sciences and Natural Resources (see "Plant Biology" on page 95) or a bachelor of science or arts track through the College of Arts and Sciences. Every student must complete a set of core courses that provide breadth in basic sciences. Introduction to plant biology should be taken during the first semester in the program. Students also must complete an emphasis to provide depth in one of the following options: Ecology and Management or Biotechnology.

The plant biology program includes a career experience/internship course (AGRO, RNGE 295/HORT, BIOS 395/NRES 497) which provides the opportunity to gain work experience in an off-campus setting related to a student's academic and career objectives.

A research project initiated by the beginning of the junior year is required. Presentation of this work will be part of the Exploring Plant Biology course.

**Pass/ No Pass.** Students in plant biology may not take any of the core or option courses required for the degree Pass/No Pass except for the Exploring Plant Biology and Career Experience courses.

Students interested in plant biology through the College of Agricultural Sciences and Natural Resources are advised to make an initial appointment with the Chief Academic Adviser who will

then assign them to a faculty member in the College of Agricultural Sciences and Natural Resources.

**Program Assessment.** To gauge the effectiveness of this program, students will be required to start and maintain an experiential portfolio throughout their program, culminating with a presentation of their research in the Introduction to Plant Biology course.

## Requirements

The core courses and one of the options must be completed.

	Hours
<b>College Integrative Courses.....</b>	<b>6</b>
AGRO/HORT/NRES 110 Exploring Plant Biology .... 1 “Exploring Plant Biology” should be taken during the first semester in the program.	
AGRÖ/RNGE/SOIL 295, BIOS/HORT 395, NRES 497	
Career Experience ..... 1 AGRÖ/RNGE/SOIL 496, BIOS 498, HORT 396 or 399, NRES/PLPT 496	
Independent Study/Current Project ..... 1 AGRI/NRES 103 Intro to Agricultural & Natural Resource Systems ..... 3	
<b>Mathematical and Statistics .....</b>	<b>8</b>
MATH 106 or 106B Analytical Geometry & Calculus I ..... 5	
STAT 218 Intro to Statistics ..... 3	
<b>Communication.....</b>	<b>6</b>
Written Communication ..... 3 Select from: ENGL 150, 151, 254; JGEN 120, 200, 300	
Oral Communication ..... 3 Select from: COMM 109, 209, or 286	
<b>Natural Sciences.....</b>	<b>21</b>
BIOC 321 & 321L or higher ..... 4	
CHEM 109 General Chemistry I ..... 4	
CHEM 110 General Chemistry II ..... 4	
CHEM 251 & 253L Organic Chemistry & Lab ..... 4	
PHYS 141 or higher ..... 5	
<b>Biological Sciences.....</b>	<b>28</b>
AGRO 315 or BIOS 206 Genetics ..... 4	
AGRO 325 Introductory Plant Physiology ..... 4	
BIOS 102 Cell Structure & Function ..... 4	
BIOS 103 Organismic Biology ..... 4	
BIOS 109 General Botany ..... 4	
BIOS 207 Ecology & Evolution ..... 4	
BIOS 471 Plant Taxonomy ..... 4	
<b>Economics, Humanities and Social Sciences .....</b>	<b>18</b>
ALEC 388 Ethics in Agriculture & Natural Resources ..... 3	
ECON 211 or 212 ..... 3	
ACE Courses ..... 12 Select one course each from ACE outcomes 5, 7, 8, and 9.	
<b>Total core requirements .....</b>	<b>87</b>
<b>Option requirements .....</b>	<b>41</b>

## Ecology and Management Option

AGRO 153 Soil Resources .....	4
AGRO 444 Vegetation Analysis .....	3
<b>Earth Sciences.....</b>	<b>6-7</b>
Water/Climate ..... 3-4	
Select one of the following:	
METR 200 Weather & Climate	
NRES 208 Intro to Bio-atmospheric Resources	
NRES 408 Microclimate: The Biological Environment	
WATS 281 Intro to Water Science	
Geospatial Information Sciences ..... 3-4	
Select one of the following:	
NRES 312 Intro to Geospatial Information Sciences	
GEOG 412 Intro to Geographic Information Systems	
GEOG 418 Intro to Remote Sensing	

<b>Biology.....</b>	<b>6-7</b>
Plant Identification .....	3-4
Select one of the following:	
AGRO 442 Range Plants	
BIOS 455 Great Plains Flora	
Plant-Animal-Organismal Interactions .....	3
Select one of the following:	
AGRO 340 Range Management & Improvement	
AGRO 460 Soil Microbiology	
BIOS 475 Ornithology	
BIOS 476 Mammalogy	
ENTO 115 Insect Biology & ENTO 116 Insect Identification	
NRES 211 Intro to Conservation Biology	
NRES 311 Wildlife Ecology & Management	
NRES 348 Wildlife Damage Management	
Ecology and Management I .....	3-4
Select one of the following:	
AGRO 204 Resource-Efficient Crop Management	
AGRO 240 Forage Crop & Range Management	
NRES 310 Intro to Forest Management	
Ecology and Management II .....	7-8
Select one of the following:	
AGRO 440 Great Plains Ecosystem	
BIOS 454 Ecological Interactions	
BIOS 457 Ecosystem Ecology	
BIOS 470 Prairie Ecology	
BIOS 473 Freshwater Algae	
NRES 417 Agroforestry Systems in Sustainable Agriculture	
NRES 424 Forest Ecology	
NRES 459 Limnology	
NRES 468 Wetlands	
<b>Electives.....</b>	<b>8-12</b>

## Biotechnology Option

AGRI 115 Biotechnology: Food Health & Environment or PLPT 250 Biotechnology: From Science to Society .....	3
AGRO 216 Plant Breeding Principles & Practice .....	2
BIOS 312 Fundamentals of Microbiology .....	3
BIOS 427 Practical Bioinformatics Lab .....	3
BIOS 478 Plant Anatomy .....	4

Select at least 2 credits from each of the four categories below for a total of 15 hours or more .....

### Biological Sciences

AGRO 460 Soil Microbiology	
BIOS 205 Genetics, Molecular & Cellular Biology Lab	
BIOS 302 Advanced Cell Structure & Function	
BIOS 407 Biology of Cells & Organelles	
BIOS 418 Advanced Genetics	
BIOS 420 Molecular Genetics	
BIOS 477 Bioinformatics & Molecular Evolution	

### Plant Biology

AGRO 408 Microclimate: The Biological Environment	
BIOS 425 Plant Biotechnology	
HORT 221 Plant Propagation	
PLPT 369 Introductory Plant Pathology	
NRES/HORT/AGRO 406 Plant Ecophysiology: Theory & Practice	

### Applied Plant Biology

AGRO/HORT 131 Plant Science and either AGRO 132 Plant Science Lab or HORT 133 Intro to Horticulture Science Lab	
AGRO 411 Crop Genetic Engineering	
AGRO 412 Crop and Weed Genetics	
<b>Plant and Food System Management</b>	

AGRO 204 Resource-Efficient Crop Management	
AGRO 240 Forage Crop & Range Management or AGRO/HORT/TLMT 327 Turfgrass Science & Management	
AGRO 426 Invasive Plants	
AGRO 437 Animal, Food & Industrial Uses of Grain	
AGRO 438 Producing Grain for Animal Food & Industrial Uses	
AGRO 405 Crop Management Strategies or AGRO 435 Agroecology	
ENTO 115 Insect Biology and 116 Insect Identification	
FDST 205 Food Composition & Analysis	
FDST 405 & 406 Food Microbiology & Lab	
FDST 425 Food Toxicology	

HORT 355 Perennial, Pot & Bedding Plant Production Lab	
HORT 362 Nursery Crop Production Management	
HORT 325 Greenhouse Practices & Management	
TLMT 427 Critical Thinking in Turfgrass Management	
<b>Electives.....</b>	<b>11</b>

## Plant Biology Minor

Requirements for the minor include a minimum of 19 hours of course work with 7-12 hours at the 300 level or above.

	Hours
<b>CORE .....</b>	<b>12</b>
AGRO/HORT 131 Plant Science and either AGRO 132 Plant Science Lab or HORT 133 Intro to Horticulture Science Lab .....	4
AGRO 325 Plant Physiology .....	4
BIOS 109 General Botany .....	4
<b>Select either the Biotechnology Focus or Ecology and Management Focus</b>	
<b>Biotechnology Focus.....</b>	<b>9-10</b>
AGRO 216 Plant Breeding Principle & Practices .....	2
AGRO 315 Genetics or BIOS 206 .....	4
Any 300 or 400 level course listed under the Plant Biology Major –Biotechnology Option .....	3-4
<b>Ecology and Management Focus.....</b>	<b>7-8</b>
NRES 220 & 222 Principles of Ecology & Lab .....	4
Any 300 or 400 level course listed under the Plant Biology Major –Ecology & Management Option ..	3-4

## Plant Pathology

**Head:** Professor James R. Steadman, 406C Plant Sciences

**Professors:** Alfano, Partridge, Powers, Steadman, Van Etten, Vidaver, Yuen

**Associate Professors:** French, Giesler, Harris, Harveson, Mitra, Tatineni

**Assistant Professors:** Funnell, Jackson, Wegulo, Wilson

An option in plant pathology is offered under the crop protection degree program, see “Plant Protection Sciences” on page 97.

## Courses of Instruction (PLPT)

(ACE 4) [IS] 110. Molds and Man (3 cr) Lec. Prereq: Non-science major. Open to non-science majors only.

Impact of fungi on human welfare. Historical and current perspective. Toxic molds and indoor air quality. Fungi as agents of human disease. Fungi and food security. High value drugs produced by fungi. Role of fungi in biodiversity. Fungi and the development of modern biology.

160. Current Topics in Plant Protection I (AGRO, ENTO, HORT 160) (1 cr II) Lec 1.

Microbe, insect, and weed pests of plants in agricultural, landscape, and natural ecosystems. Potential impacts of new scientific, regulatory, and international trade developments on plant pests management.

[ES][IS] 189H. University Honors Seminar (3 cr) Prereq: Good standing in the University Honors Program or by invitation. University Honors Seminar 189H is required of all students in the University Honors Program. Topic varies.

250. Biotechnology: From Science to Society (3 cr II) Lec. Prereq: Basic understanding of CHEM recommended.

Basic principles and applications of recombinant DNA technology. The implications of DNA technology on agriculture, medicine, and approaches to solving crimes and environmental problems. The ethics, legal issues, and societal impacts of the implementation of DNA technology.

260. Current Topics in Plant Protection II (AGRO, ENTO 260, HORT 159) (1 cr II) Lec 1. Prereq: Sophomore standing.

Microbe, insect, and weed pests of plants in agricultural, landscape, and natural ecosystems. Potential impacts of new

scientific, regulatory, and international trade developments on plant pests management.

**270. Biological Invaders** (AGRO/HORT/NRES 270) (3 cr I) Prereq: 3 hrs biological sciences.

Impact of exotic species and invasive organisms: agricultural and medical emerging disease; predicting biological invasions; biological control; regulatory, monitoring, and control efforts; ecological impact.

**[ES][IS] 369. Introductory Plant Pathology** (BIOS 369) (3 cr I) Lec/dem 3. Prereq: BIOS 101 and 101L, or 109. *PLPT 300 is not an IS course and may not be used for D/F removal in PLPT 369. Credit towards the degree may be earned in only one of PLPT 300 or 369.* Introduction to the study of plant diseases including relation of plant diseases to crop production, environment, and man. Examples and demonstrations emphasize horticultural and agronomic crops of Nebraska.

**369L. Introductory Plant Pathology Lab** (1 cr I) Lab. Prereq: Parallel PLPT 369. Optional lab for PLPT 369.

**370. Biology of Fungi** (AGRO/HORT 370) (3 cr I) Prereq: 8 hrs biological sciences.

Survey of fungi in natural and human ecosystems: symbiotic relationships; as disease agents in humans, animals, and plants; applications in food, agricultural, and pharmaceutical industries; historical and current impacts on society.

**390. Current Topics in Plant Protection III** (AGRO, ENTO, HORT 390) (1 cr, max 2 II) Lec 1. Prereq: Junior standing. Microbe, insect, and weed pests of plants in agricultural, landscape, and natural ecosystems. Potential impacts of new scientific, regulatory, and international trade developments on plant pests management.

**475. Agricultural Biosecurity** (3 cr) Lec. Prereq: 3 hrs BIOS; 3 hrs CHEM; and course work in one of the following areas: AGRO, VBMS, ASCI, ECON, ENTO, NRES, FDST, and plant protection. Introductory microbiology and biochemistry recommended. *Team projects.*

Natural resources, plant and animal health and productivity from the perspective of biosafety, biosecurity, bioterrorism, and biowarfare. Laws and regulations, economic effects, and countermeasures.

**495. Internship in Plant Pathology** (1-3 cr, max 5) Ind. Prereq: Junior standing. *Pass/No Pass only. Completion and approval of an internship proposal form is required before registering.* Experience in a work place setting that is directly related to Plant Pathology.

**496. Independent Study** (1-5 cr, max 5 I, II, III) Ind. Prereq: Advanced approval of the plan of study and permission. Individual or group projects.

Research, literature review, extension of course work, or preparation of teaching materials.

**498. Independent Research** (1-3 cr, max 6) Prereq: Permission. Independent research in areas of plant pathology.

**499H. Honors Thesis** (3-6 cr I, II, III) Prereq: Admission to the University Honors Program and permission, AGRO 299H recommended. Conduct a scholarly research project and write a University Honors Program or undergraduate thesis.

**\*813. Biological Control of Pests** (ENTO \*813) (3 cr II) Lec 3. Prereq: 12 hrs BIOS and/or agricultural sciences. *ENTO/PLPT \*813 is offered spring semester of even-numbered calendar years.*

**\*864A. Principles of Plant Pathology I** (BIOS \*864A) (3 cr) Lec/dem 2. Prereq: PLPT 369 or equivalent and introduction to biochemistry or permission.

**\*864B. Principles of Plant Pathology II** (BIOS \*864B) (3 cr II) Lec/dem 2. Prereq: PLPT 369 or equivalent and introduction to biochemistry or permission.

**\*865. Insect Transmission of Plant Diseases** (BIOS, ENTO \*865) (2 cr II) Lec 2. Prereq: 8 hrs biological sciences including BIOS 464A/864A preceding or parallel and 6 hrs entomology or biological sciences (zoology). *Offered even-numbered calendar years.*

**\*866. Phytopathogenic Nematodes** (BIOS \*866) (3 cr I) Lec 2, lab 3. Prereq: BIOS 464A/864A or \*864B or permission. *Offered odd-numbered calendar years.*

**\*867. Plant Associated Microbes** (4 cr II) Lec 3, lab 3. Prereq: A course in general microbiology, bacteriology, or mycology. A course in general plant pathology is highly recommended. *PLPT \*867 is offered odd-numbered calendar years.*

**\*869. Phytopathogenic Fungi** (BIOS \*869) (3 cr II) Lec 1, lab 2. Prereq: BIOS 312, 864A or \*864B, 805 or equivalent, with permission. *Offered even-numbered calendar years.*

**888. Problems in Biological Sciences** (BIOS 888) (1-6 cr, max 16) Prereq: 12 hrs biological sciences and permission.

**899. Masters Thesis** (BIOS 899) (6-10 cr)

*Refer to the Graduate Bulletin for 900-level courses.*

## Plant Protection Sciences

### Plant Protection Sciences Curriculum Committee

**Chair: Professor J. E. Partridge**, Department of Plant Pathology, 406 Plant Sciences

**Professors:** Powers (plant pathology), Yuen (plant pathology)

Plant protection sciences is a wide and multifaceted field of study. Students pursuing this degree will prepare themselves for careers that involve the application of biology, ecology and chemistry for the protection of plants that are useful and beneficial to man. Students in this degree program will study plants as well as the biologies and management of their associated pests and parasites. Students will also learn to understand the interactions of these beneficial and destructive organisms within various environments which result in reduced plant vigor, health or yield loss. These situations may also lead to plant products that are unsafe or toxic for human and animal consumption.

Students successfully completing the requirements for graduation in this degree program may find employment opportunities in such areas as: government regulatory services, commercial inspection and home security agencies; consulting companies; agrichemical industries; and plant breeding companies. Students considering graduate studies will find themselves well prepared for that pursuit as well.

The Plant Protection Sciences curriculum provides students with the course work background required for application for professional certification. The Plant Protection Sciences Curriculum Committee in the College of Agricultural Sciences and Natural Resources serves as the administrative body for this degree program and is responsible for advising students selecting this degree program.

## Requirements

	Hours
<b>College Integrative Courses</b> .....	6
AGRI 103 Intro to Agriculture & Natural Resource Systems.....	3
AGRO/ENTO/PLPT 480 Integrative Plant Protection Sciences (Capstone).....	3
<b>Natural Sciences</b> .....	33
AGRO 315 Genetics.....	4
BIOS 109 Botany.....	4
BIOS 101 & 101L Intro to Biology & Lab.....	4
Biology elective .....	4
Select from: AGRO 325; BIOS 207, 381, 471, or 478	
CHEM 109 General Chemistry I.....	4

CHEM 110 General Chemistry II..... 4  
CHEM 251 & 253 Organic Chemistry & Lab..... 4

PHYS 141 Elementary General Physics or PHYS 151 & 153 Elements of Physics & Lab or PHYS 211 & 221 General Physics & Lab or MSYM 109 & 109L

Physical Principles in Agriculture & Lab..... 5

**Mathematics and Statistics (beyond college algebra)** .....

Select from: MATH 102, 104, 106, 203, and STAT 218  
Students must take MATH 203 prior to STAT 218  
to receive UNL credit for both MATH 203 and STAT 218.

**Communications**..... 6

Written Communication..... 3

Select from: ENGL 150, 151, 254; JGEN 120, 200

Communication and Interpersonal Skills electives.... 3

Select from: ENGL 101, 150, 151, 252, 253, 254; ALEC 102; JGEN 120, 200, 300; COMM 109, 209, 212, or 286

**Economics, Humanities and Social Sciences** .....

ECON 211 or ECON 212 or AECN 141..... 3

**ACE Courses**..... 12

Select one course each from ACE outcomes 5, 7, 8, and 9.

Select one elective in this area..... 3

**Plant Protection Sciences**..... 40

AGRI 200 Intro to Pesticides..... 2

AGRO 153 Soil Resources..... 4

AGRO 426 Invasive Plants..... 3

ENTO 115 Insect Biology .....

ENTO 116 Insect Identification..... 1

PLPT 160 Current Topics in Plant Protection I..... 1

PLPT 260 Current Topics in Plant Protection II .....

PLPT 369 & 369L Intro to Plant Pathology & Lab..... 4

PLPT 390 Current Topics in Plant Protection III..... 1

**Internship** .....

Select from: AGRO 496, ENTO 496, HORT 496,

PLPT 496

**Plant Science/Production electives** .....

Select from: AGRO 131 and 132, 204, 240; HORT 130, 325, 327

**Plant Protection Sciences electives** .....

Select of electives must be done with adviser to assure proper progress towards certification desired.

**Entomology**

Select from: ENTO 109, 303, 308, 400, 401, 406

**Plant Pathology**

Select from: PLPT 270, 370; BIOS 312 and 313

**Weed Science**

Select from: AGRO 412

**Free Elective<sup>6</sup>** .....

Total Requirements for Graduation .....

128

A minor in integrated pest management will include a minimum of 18 hours of pest management-related courses including three core courses (AGRO 426 Invasive Plants, PLPT 369 Introduction to Plant Pathology, and either ENTO 308 Management of Field Crop Insects or ENTO 303 Horticultural Insects). The remaining pest management courses must be approved by a member of the Plant Protection Sciences Curriculum Committee. At least 6 hours must be at the 300 or 400 level and up to 3 hours of pest management related independent study course work may be included.

## Integrated Pest Management Minor

A minor in integrated pest management will include a minimum of 18 hours of pest management-related courses including three core courses (AGRO 426 Invasive Plants, PLPT 369 Introduction to Plant Pathology, and either ENTO 308 Management of Field Crop Insects or ENTO 303 Horticultural Insects). The remaining pest management courses must be approved by a member of the Plant Protection Sciences Curriculum Committee. At least 6 hours must be at the 300 or 400 level and up to 3 hours of pest management related independent study course work may be included.

## PGA Golf Management

**PGA Golf Management Office:** Martin Massengale, 304 Biochemistry Hall

**Faculty Advisory Committee:** Heng-Moss (entomology); Horst, Shearman (horticulture); Schnepp (nutritional science and dietetics); Zorn (finance)

<sup>6</sup> Depending on career goals; students, in consultation with their advisers, may wish to consider minors and/or a dual major.

The PGA Golf Management degree program is designed for students who wish to be educated in all aspects of the golf industry and become PGA members. This comprehensive program blends college academic requirements with requirements of the Professional Golfers' Association of America's PGA Golf Management Program (PGA/PGM™), and includes structured internship experiences. The purpose of the program is to produce a graduate that has a basic background in managing golf facilities and related organizations, business and personnel management, restaurant and hospitality management, recreation, and golf instruction methods. Upon graduation, a student is eligible for PGA Class "A" membership.

The program's Web site is [pgm.unl.edu](http://pgm.unl.edu).

## CASNR Requirements

	Hours
<b>College Integrative Courses.....</b>	<b>6</b>
AGRI 103 Intro to Agriculture & Natural Resource Systems.....	3
PGMP 489 Professional Golf Management Integration.....	3
<b>Mathematics and Statistics (beyond college algebra).....</b>	<b>5</b>
Select from MATH 102, 104, 106 and STAT 218.	
<b>NOTE:</b> Proficiency at the college algebra level must be demonstrated either by a placement exam or through course work. If MATH 103 is taken, only 2 cr hrs can be counted toward this requirement.	
<b>Communications.....</b>	<b>9</b>
Written Communication.....	3
Select from: ENGL 150, 151, 254; JGEN 120, 200, 300	
Oral Communication.....	3
Select from: COMM 109, 209, or 286	
Leadership.....	3
ALEC 102 Interpersonal Skills for Leadership...3	
<b>Natural Sciences.....</b>	<b>10-11</b>
AGRO 131 Plant Science.....	3
CHEM 105 Chemistry in Context I or CHEM 109 General Chemistry I.....	4
Select from.....	3-4
BIOS 101 & 101L General Biology & Lab (4 hrs)	
BIOS 109 General Botany (4 hrs)	
ENTO 115 Insect Biology (3 hrs) (preferred)	
<b>Economics, Humanities and Social Sciences.....</b>	<b>18</b>
ECON 211 and ECON 212.....	6
ACE Courses.....	9
Select one course each from ACE outcomes 5, 7, and 9.	
Select one elective in this area.....	3

## PGA Golf Management Degree Requirements

	Hours
<b>Additional Plant Sciences .....</b>	<b>7</b>
AGRO 153 Soil Resources .....	4
PGMP 227 Introductory Turfgrass Management or PGMP 327 Turfgrass Science & Management .....	3
<b>Food Service Management.....</b>	<b>9</b>
HRTM 374 Guest Services Management.....	3
NUTR 373 Catering .....	3
NUTR 474 Food & Beverage Management .....	3
<b>Business.....</b>	<b>17-19</b>
ACCT 201 Introductory Accounting I (3 cr) and ACCT 202 Introductory Accounting II (3 cr) or ACCT 306 Survey of Accounting (4 cr).....	4-6
BSAD 150 Business Computer Applications.....	1
FINA 361 Finance .....	3
MNGT 320 Principles of Management.....	3
MNGT 361 Personnel/Human Resource Management.....	3
MRKT 341 Marketing.....	3
<b>PGMP Courses.....</b>	<b>17</b>
PGMP 101 Intro to Professional Golf Management ...	3
PGMP 112 PGM Professional Development: First Year .....	1

PGMP 201 Professional Golf Management Program: Level 1 .....	3
PGMP 212 PGM Professional Development: Second Year.....	1
PGMP 213 Professional Development: Analysis of the Swing.....	1
PGMP 295 PGM Extended Internship .....	0
PGMP 301 Professional Golf Management Program: Level 2 .....	3
PGMP 312 PGM Professional Development: Third Year .....	1
PGMP 313 Professional Development: Merchandising .....	1
PGMP 401 Professional Golf Management Program: Level 3 .....	3
<b>Other.....</b>	<b>3</b>
ATHC 279 Coaching Effectiveness.....	3
<b>Specialization Electives.....</b>	<b>12</b>

Select a minimum of 12 hours from the following:

ALEC 202 Leadership in Small Groups & Teams (3 cr)
ALEC 302 Dynamics of Effective Leadership in Organizations (3 cr)
ALEC 410 Environmental Leadership (3 cr)
AGRO 366 Soil Nutrient Management (3 cr)
BLAW 372 Business Law I (3 cr)
ENTO 303 Horticultural Insects (3 cr)
HORT 200 Landscape & Environmental Appreciation (3 cr)
HORT 212 Landscape Plants I (3 cr)
HORT 452 Irrigation Systems Management (3 cr)
MNGT 331 Operations & Resources Management (3 cr)
MNGT 350 Intro to Management Information Systems (3 cr)
MNGT 421 Entrepreneurship & Venture Management (3 cr)
MRKT 345 Market Research (3 cr)
MRKT 347 Marketing Communication Strategy (3 cr)
MRKT 425 Retailing Management (3 cr)
MRKT 428 Sports Marketing (3 cr)
MRKT 442 Marketing Management (3 cr)
MRKT 443 Consumer Behavior: Marketing Aspects (3 cr)
NRES 208 Applied Climate Science (3 cr)
NUTR 372 Food Safety & Sanitation (3 cr)
NUTR 470 Cost Control for Food Service (2 cr)
NUTR 471 Vines, Wines & You (3 cr)
PGMP 227 Introductory Turfgrass Management (if not taken above) (3 cr)
PGMP 327 Turfgrass Science & Management (if not taken above) (3 cr)
PGMP 328 Turfgrass Equipment (1 cr)
PGMP 427 Critical Thinking in Turfgrass Management (3 cr)
PHYS 151 Elements of Physics (4 cr)
PLPT 369 Intro to Plant Pathology (3 cr)

**Free Electives .....**

12-15

**Total Credit Hours.....**

**128**

To meet PGA requirements, PGMP students must:

- be formally accepted by written confirmation into the PGA Golf Management program;
- submit proof of playing ability equivalent to 12 handicap or better;
- complete 16 months of internships in at least three different settings;
- participate in a Playing Ability Test once in first year and twice each succeeding year until the PAT is passed; and
- complete Level 3 of the PGA Golf Management program prior to graduation.

Students are also expected to maintain a 2.5 grade point average, which is required for the College of Business Administration courses.

## Courses of Instruction (PGMP)

**101. Introduction to Professional Golf Management** (3 cr I) Lec 2, rct 1. Prereq: Acceptance into the Professional Golf Management Program (PGMP). *PGMP 101 requires starting the process of conducting first assignments in Level 1 of PGA/PGM Work Experience Kit.*

Integration of academic and the Professional Golfers' Association (PGA) requirements. Overview of knowledge and concepts in Level 1 of the PGA/PGM program. Completion of the second set of learning objectives in Level 1 of PGA/PGM relating to the PGA Constitution, Career Enhancement, Golfer Development Programs, and Tournament Operations.

**112. PGM Professional Development: First Year** (1 cr II) Lec 1. Prereq: PGMP 101. Additional learning objectives from Level 1 of the PGA/PGM. Preparation for first PGMP internship.

**201. Professional Golf Management Program: Level 1** (3 cr I) Lec 2, rct 1. Prereq: PGMP 112. *Must register for PGMP 201 the semester after completion of the first PGMP internship. Students will be tested over all ten Level 1 learning objectives in PGA/PGM Checkpoint 1 the semester following the completion of PGMP 201. Completion of the learning objectives in Level 1 of the PGA/PGM relating to Tournament Operations, Rules of Golf, Golf Car Fleet Management, Introduction to Teaching, and Club Repair and Design.*

**212. PGM Professional Development: Second Year** (1 cr II) Lec 1. Prereq: PGMP 201. *PGA/PGM Checkpoint 1 takes place during spring break.*

Integration of the knowledge and concepts covered in PGMP 101, 112, and 201 to prepare for the PGA/PGM Checkpoint 1. Preparation for second PGMP internship.

**213. Professional Development: Analysis of the Swing** (1 cr II) Lec 1. Prereq: PGMP 201. *PGMP 212 is a mini-course and has guest lectures.*

Instruction from specialists in the subject matter area.

**227. Introductory Turfgrass Management** (TLMT, AGRO, HORT 227) (3 cr II) Lec 2, lab 3. Prereq: AGRO 131 or HORT 130 or BIOS 109.

For course description, see TLMT 227.

**228. Introduction to Landscape Management** (TLMT, AGRO, HORT 228) (3 cr II) Lec 2, lab 3. Prereq: AGRO 131 or BIOS 109. *TLMT/AGRO/HORT/PGMP 228 uses a team approach to problem solving, discussion, assessment planning and oral presentations of applied case studies.*

For course description, see TLMT 228.

**295. Professional Golf Management Extended Internship** (0-12 cr, max 24 I, II, III) Fld. Prereq: Sophomore standing; PGMP 101; permission of PGMP Internship Coordinator. *Credit in PGMP 295 does not count toward graduation. All students in PGMP that are participating in an extended internship may register each term while on the internship. Pass/No Pass only.*

Cooperative education work in a regularly established internship in the PGMP curriculum.

**301. Professional Golf Management Program: Level 2** (3 cr I) Lec 2, rct 1. Prereq: PGMP 201; completion of PGA/PGM Level 1. *Must register for PGMP 301 the semester after completion of the second PGMP internship. Testing over all Level 2 learning objectives in PGA/PGM Checkpoint 2 takes place the semester following completion of PGMP 301.*

Completion of the learning objectives in Level 2 of the PGA/PGM.

**302. Golf for Success in Business and Life** (1 cr I) Fld. Prereq: Junior standing. *Pass/No Pass only. There are additional fees that apply to PGMP 302 that are over and above the standard tuition and fees. Enrollment is limited. Contact the instructor for details. Not open to PGMP majors. Instructor provided by PGA professionals in golf course setting.*

Basic knowledge and skills of golf. Golf as a business tool.

**312. PGM Professional Development: Third Year** (1 cr II) Lec 1. Prereq: PGMP 301. *The PGA/PGM Checkpoint 2 takes place during spring break.*

Integrates the knowledge and concepts covered in PGMP 201, 212, and 301 to prepare for PGA/PGM Checkpoint 2. Preparation for third PGMP internship.

**313. Professional Development: Merchandising** (1 cr II) Lec 1. Prereq: PGMP 201. *PGMP 313 is a mini-course and has guest lectures.*  
Instruction from specialists in the subject matter area.

**326. Landscape Solutions** (TLMT, AGRO, HORT 326) (3 cr I) Lec 1, lab 4. Prereq: TLMT/AGRO/HORT/PGMP 227 or 228. For course description, see TLMT 326.

[ES] **327. Turfgrass Science and Management** (TLMT, AGRO, HORT 327) (3 cr I) Lec 2, lab 3. Prereq: AGRO/HORT/SOIL 153, BIOS 109, CHEM 109 or parallel, or HORT 221. For course description, see TLMT 327.

**328. Turfgrass Equipment** (TLMT, AGRO, HORT 328) (1 cr I) Lec 1, lab 2. For course description, see TLMT 328.

**401. Professional Golf Management Program: Level 3** (3 cr I) Lec 2, rct 1. Prereq: PGMP 301; completion of PGA/PGM Level 2. *Must register for PGMP 401 the semester after completion of the third PGMP internship. Testing over all Level 3 learning objectives in PGA/PGM Checkpoint 3 takes place the semester following completion of PGMP 401.*  
Completion of the learning objectives in Level 3 of the PGA/PGMP.

(ACE 10) **427. Critical Thinking in Turfgrass Management** (TLMT 427; AGRO, HORT 427/827) (3 cr I) Lec 2, lab 2. Prereq: 9 hrs agricultural plant science and 3 hrs soil science. Capstone course. *TLMT/AGRO/HORT/PGMP 427/827 involves class discussion, case studies, field trips, and demonstrations.*  
For course description, see TLMT 427.

(ACE 10) **489. Professional Golf Management Integration**<sup>1</sup> (3 cr I) Lec 3. Prereq: PGMP 401. *PGMP 489 is to be taken concurrently in the fall semester when completing Level 3 of the PGA/PGM. PGMP 489 requires an oral presentation and submission of a portfolio. All academic and PGA requirements must be met to pass PGMP 489. Capstone course for the PGMP major.*  
Pulls together knowledge gained from the academic courses, internships, and other aspects of PGA/PGM Checkpoint 3.

## Turfgrass and Landscape Management

**Coordinator: Professor Robert Shearman**, 377M Plant Science

This degree program provides undergraduates with education and skills in the management of turfgrasses and landscape plants in a comprehensive set of situations, and pertinent business relationships related to careers in the Green Industry. Turfgrass and landscape plants and their management are closely related and highly interactive in urban, suburban, and rural environments. In this degree program, students will share course work and experiences in key courses giving them a broader perspective and working knowledge for greater success in their chosen careers.

The core curriculum of this degree program provides students with a balanced education focusing on turfgrass and landscape plant management, biology and function, sustainability and environmental concerns, as well as courses in mathematics, science and humanities. Students in this degree program will select either the Turfgrass Management or Landscape Management Option, allowing them to focus on important aspects that are distinct to their selected career path.

**Turfgrass Management Option** is designed for students considering careers as golf course superintendents, sports turf managers, resort grounds managers, lawn care service owners and operators, institution and grounds managers, estate managers, sod producers, sales representatives,

industry technical representatives, educators, and consultants. This option is also suitable for considering graduate study, or careers in academia and research.

**Landscape Management Option** is designed for students interested in careers as landscape management contractors, landscape management service providers, botanical garden and arboretum directors or managers, landscape plant producers, estate managers, sales representatives, industry technical representatives, educators and consultants. This option also provides preparation for graduate study, or careers in academia.

## Requirements

The following basic courses are required for students in the Turfgrass and Landscape Management (TLMT) degree program. In addition, students must select and meet the requirements of one of the options.

## CASNR Requirements

**College Integrative Courses** ..... 6  
AGRI 103 Intro to Agriculture & Natural Resources.. 3  
Select from one of the following courses: ..... 3  
TLMT 427<sup>2</sup> Critical Thinking in Turfgrass Management (3 cr)  
TLMT 470<sup>3</sup> Critical Thinking in Landscape Management (3 cr)  
<sup>a</sup> Capstone Course Required for the Turfgrass Management Option  
<sup>b</sup> Capstone Course Required for the Landscape Management Option  
**Mathematics and Statistics (beyond college algebra** ..... 5  
Select from:  
MATH 102 Trigonometry ..... 2  
MATH 106 Analytical Geometry & Calculus I ..... 5  
STAT 218 Intro to Statistics ..... 3  
**Communications** ..... 6  
Select 3-cr from each of the following areas:  
Written Communications: ..... 3  
ENGL 150 Writing: Rhetoric as Inquiry (3 cr)  
ENGL 151 Writing: Rhetoric as Argument (3 cr)  
ENGL 254 Rhetorical Practice & Writing Communities (3 cr)  
JGEN 120 Basic Business Communications (3 cr)  
JGEN 200 Technical Communications I (3 cr)  
JGEN 300 Technical Communications II (3 cr)  
Communications & Interpersonal Skills: ..... 3  
COMM 109 Fundamentals of Human Communications (3 cr)  
COMM 209 Public Speaking (3 cr)  
COMM 212 Debate (3 cr)  
COMM 286 Business & Professional Communication (3 cr)  
ALEC 102 Interpersonal Skills For Leadership (3 cr)

**Natural Sciences** ..... 12  
CHEM 105 Chemistry in Context I ..... 4  
CHEM 106 Chemistry in Context II ..... 4  
MSYM 109 Physical Principles in Agriculture ..... 4

Students interested in advanced studies beyond the B.S. degree are encouraged to take CHEM 109 and CHEM 110. Students may substitute PHYS 141, PHYS 151, or PHYS 211 for MSYM 109.

**Economics, Humanities and Social Sciences** ..... 15  
ECON 211 or ECON 212 or AECN 141 ..... 3  
ACE Courses ..... 12  
Select one course each from ACE outcomes 5, 7, 8, and 9.

## TLMT Degree Requirements

**Requirements** ..... 35  
BIOS 109 General Botany ..... 4  
AGRO 131 Plant Science ..... 3  
AGRO 132 Plant Science Lab ..... 1  
AGRO 153 Soil Resources ..... 4

TLMT 227 Intro to Turfgrass Management ..... 3  
TLMT 228 Intro to Landscape Management ..... 3  
Leadership and Professional Skills ..... 5-8  
*ALEC 102 plus two career experiences for a minimum of 2 cr in either TLMT 395 or TLMT 295 must be taken*

ALEC 102<sup>4</sup> Interpersonal Skills for Leadership (3 cr)  
TLMT 395 or TLMT 295<sup>5</sup> Career Experience or Extended Internship (2-5 cr)

<sup>c</sup> Also meets CASNR requirement for Communications and interpersonal Skills

<sup>d</sup> A minimum of 2 cr required; up to 5 cr may be taken

Plant Identification and Utilization ..... 6

Select a minimum of 6 cr from the following:

HORT 212 Landscape Plants I (3 cr)

HORT 213 Landscape Plants II (3 cr)

HORT 214 Herbaceous Landscape Plants (3 cr)

Plant Growth and Development ..... 7

Select a minimum of 7 cr from the following:

HORT 221 Plant Propagation (3 cr)

AGRO 315 Genetics (4 cr)

AGRO 325 Introductory Plant Physiology (4 cr)

## Turfgrass Management Option

**Option Requirements** ..... 46

*The following courses are required for the option:*

TLMT 327 Turfgrass Science & Management ..... 3

TLMT 328 Turfgrass Equipment ..... 1

TLMT 480 Modified Rootzones ..... 1

TLMT 413 Turfgrass & Landscape Weed Management ..... 1

TLMT 420 Turfgrass & Landscape Insect Management ..... 1

TLMT 430 Turfgrass & Landscape Disease Management ..... 1

TLMT 440 Turfgrass & Landscape Integrated Pest Management ..... 1

Pests and Environment ..... 12

Select from the following:

ENTO 115 Insect Biology (3 cr)

ENTO 116 Insect Identification (1 cr)

AGRO 426 Invasive Plants (3 cr)

AGRO 269 Principles of Soils Management (3 cr)

ENTO 403 Horticultural Insects (3 cr)

TLMT 326 Landscape Solutions (3 cr)

AGRO 366 Soil Nutrient Relationships (4 cr)

PLPT 369 Intro to Plant Pathology (3 cr)

HORT 452 Irrigation Systems Management (3 cr)

HORT 470 Critical Thinking in Landscape Management (3 cr)

NRES 208 Applied Climate Sciences (3 cr)

ENTO 300 Toxins in the Environment (2 cr)

NRES 348 Wildlife Damage Management (3 cr)

GEOL 418 Chemistry of Natural Waters (3 cr)

Business and Personnel Management ..... 12

Select from the following:

ACCT 201 Introductory Accounting I (3 cr)

ACCT 202 Introductory Accounting II (3 cr)

ACCT 306 Survey of Accounting (3 cr)

ECON 211 Principles of Macroeconomics (3 cr)

ECON 212 Principles of Microeconomics (3 cr)

MNGT 320 Principles of Management (3 cr)

MNGT 361 Personnel/Human Resource Management (3 cr)

FINA 361 Finance (3 cr)

MRKT 341 Marketing (3 cr)

HORT 488 Business Management for Horticultural Enterprises (3 cr)

**Free Electives** ..... 13

**Total Credit Hours** ..... 128

## Landscape Management Option

**Option Requirements** ..... 46

*The following courses are required for the option:*

TLMT 326 Landscape Solutions ..... 3

TLMT 329 Landscape Equipment ..... 1

TLMT 480 Modified Rootzones ..... 1

TLMT 330 Pruning Ornamentals ..... 1

TLMT 413 Turfgrass & Landscape Weed Management ..... 1

TLMT 420 Turfgrass & Landscape Insect Management ..... 1

TLMT 430 Turfgrass & Landscape Disease Management ..... 1

TLMT 440 Turfgrass & Landscape Integrated Pest Management.....	1
HORT 488 Business Management for Horticultural Enterprises .....	3
Pests and Environment.....	9
Select a minimum of 9 cr from the following:	
AGRO 269 Principles of Soils Management (3 cr)	
AGRO 366 Soil Nutrient Relationships (4 cr)	
AGRO 426 Invasive Plants (3 cr)	
ENTO 115 Insect Biology (3 cr)	
ENTO 116 Insect Identification (1 cr)	
ENTO 300 Toxins in the Environment (2 cr)	
ENTO 403 Horticultural Insects (3 cr)	
HORT 452 Irrigation Systems Management (3 cr)	
NRES 208 Applied Climate Sciences (3 cr)	
NRES 348 Wildlife Damage Management (3 cr)	
PLPT 369 Intro to Plant Pathology (3 cr)	
TLMT 327 Turfgrass Science & Management (3 cr)	
TLMT 427 Critical Thinking in Turfgrass Management (3 cr)	
Business and Personnel Management.....	12
Select a minimum of 12 cr from the following:	
ACCT 201 Introductory Accounting I (3 cr)	
ACCT 202 Introductory Accounting II (3 cr)	
ACCT 306 Survey of Accounting (4 cr)	
ECON 211 Principles of Macroeconomics (3 cr)	
ECON 212 Principles of Microeconomics (3 cr)	
FINA 361 Finance (3 cr)	
HORT 288 Horticultural Entrepreneurship (2 cr)	
HORT 488 Business Management for Horticultural Enterprises (3 cr)	
MNGT 320 Principles of Management (3 cr)	
MNGT 361 Personnel/Human Resource Management (3 cr)	
MRKT 341 Marketing (3 cr)	
Free Electives .....	12
Total Credit Hours.....	128

## Courses of Instruction (TLMT)

**227. Introductory Turfgrass Management** (AGRO, HORT, PGMP 227) (3 cr II) Lec 2, lab 3. Prereq: AGRO 131 or HORT 130 or BIOS 109. Introduction to turfgrasses, their management and use, and to the turfgrass industry.

**228. Introduction to Landscape Management** (AGRO, HORT, PGMP 228) (3 cr II) Lec 2, lab 3. Prereq: AGRO 131 or BIOS 109. *TLMT/AGRO/HORT/PGMP 228 uses a team approach to problem solving, discussion, assessment planning and oral presentations of applied case studies.* An overview of landscape management and landscape design. Principles and practices.

**295/095. Turfgrass and Landscape Management Extended Internship** (1-12 cr, max 12) Fld. Prereq: Sophomore standing; TLMT/AGRO/HORT/PGMP 227 or 228. *TLMT 295/095 requires advanced permission before registering for the course. A written and oral report is required at the completion of the career experience. Pass/No Pass only.*

Participation in a turfgrass or landscape management enterprise (other than in one of those in which the student has had previous experience).

**326. Landscape Solutions** (AGRO, HORT, PGMP 326) (3 cr I) Lec 1, lab 4. Prereq: TLMT/AGRO/HORT/PGMP 227 or 228. Using processes and problem-solving approach to identify and analyze common landscape management situations in commercial, public, and residential landscapes. Integrate design, environment, function, pest and disease, and existing management practices to produce recommendations.

**[ES] 327. Turfgrass Science and Management** (AGRO, HORT, PGMP 327) (3 cr I) Lec 2, lab 3. Prereq: AGRO/HORT/SOIL 153, BIOS 109, CHEM 109 or parallel, or HORT 221. Scientific principles of turf species adaptation, turf and/or soil relationships, establishment, fertility, mowing, irrigation, pest control, and vegetative identification of turf species.

**328. Turfgrass Equipment** (AGRO, HORT, PGMP 328) (1 cr I) Lec 1, lab 2. Principles and procedures of turfgrass management equipment. Current technology, acquisition, operation, power trains, hydraulics, fuel systems, and maintenance of equipment.

**329. Landscape Equipment** (AGRO, HORT 329) (1 cr I) Lec 1, lab 2.

Principles and procedures of landscape management equipment, current technology, acquisition, operation, maintenance of equipment, power trains, hydraulics, and fuel systems.

**330. Pruning Ornamentals** (AGRO, HORT 330) (1 cr II) Lec 1, lab 2. *TLMT/AGRO/HORT 330 will be offered during the last five weeks of the second semester.*

Why, when and how to prune ornamental landscape plants. Demonstrations and field opportunities on how to choose and how to use pruning tools correctly.

**395. Career Experience**<sup>1</sup> (AGRO, HORT 395) (1-5 cr, max 5) Fld. Prereq: Sophomore standing; HORT or AGRO or TLMT major. *HORT/TLMT/AGRO 395 requires advanced permission before registering for the course. A written and oral report is required at the completion of the career experience.* For course description, see HORT 395.

**413/813. Turfgrass and Landscape Weed Management** (AGRO, HORT 413/813) (1 cr II) Lec 1, lab 2.

Fundamental terminology associated with turfgrass and landscape weed management. Weed identification and the cultural practices and herbicide strategies to limit weed invasion and persistence.

**(ACE 10) 427/827. Critical Thinking in Turfgrass Management**<sup>1</sup> (AGRO, HORT 427/827, PGMP 427) (3 cr I) Lec 2, lab 2.

Prereq: 9 hrs agricultural plant science and 3 hrs soil science. Capstone course. *TLMT/AGRO/HORT 427/827//PGMP 427 involves class discussion, case studies, field trips, and demonstrations.* Principles of turfgrass management and related contemporary issues. Concepts and problem solving approaches to turfgrass management.

**440/840. Turfgrass and Landscape Integrated Pest Management** (HORT 440/840) (1 cr I) Lec 1, rct 2. *TLMT/HORT 440/840 is a five-week course.*

Principles of turfgrass and landscape plant pest management and tools to implement Integrated Pest Management (IPM) approaches. Creating healthy landscapes and effectiveness of IPM alternatives.

**(ACE 10) [IS] 470. Critical Thinking in Landscape Management** (AGRO, HORT 470) (3 cr II) Lec 1, lab 3. Prereq: AGRO/HORT/ PGMP/TLMT 326. *Form a landscape management company.*

Using processes and strategies to identify and compare issues, make recommendations, demonstrate proficiency in field application as skills and techniques, and prepare cost estimates in the development of landscape management plans.

**480/880. Modified Rootzones** (AGRO, HORT 480/880) (1 cr I, II) Lec 1, lab 2. Prereq: AGRO/HORT/SOIL 153. *TLMT/AGRO/HORT 480/880 is offered as a five-week course.*

Modified rootzones and their applications in the turfgrass and landscapes management industry. Current applications and construction techniques.

## Veterinary and Biomedical Sciences

**Head: Professor David Hardin**, Department of Veterinary and Biomedical Sciences, 120C Vet Basic Sciences

**Professors:** Barletta, Doster, Griffin, Jones, Kelling, Lou, McVey, Moxley, Osorio, Pattnaik, Pickard, Rogers, Rupp, Smith, Steffen

**Associate Professors:** Hostetler, Keen, Randle, Reddy, Sollars

**Assistant Professor:** Brodersen, Cortinas, Kammermann, Somerville

**Lecturer:** Ondrak

**Research Associate Professor:** Zhou

**Research Assistant Professors:** Bramley, Delhon, Xing

**Coordinator for Research:** Jones

**Assistant Professors of Practice:** Carlson, L. Hardin

Courses in veterinary science are designed to broaden the knowledge of students in such areas as microbiology, virology, pathology, pharmacology, toxicology, immunology, molecular biology and

biochemistry as they relate to diverse animal species. Members of the faculty advise students in veterinary science and veterinary technology and assist students in modifying their curriculum to meet the entrance requirements for professional school as part of their pre-professional program.

Three options are available for the veterinary science student.

For graduate programs in veterinary science, see the *Graduate Studies Bulletin*.

## Requirements

### Veterinary Science

The following basic courses are required for the veterinary science degree program in the Department of Veterinary and Biomedical Sciences. In addition, students in the degree program must select and meet the requirements of one of the options, depending upon their particular needs and interests.

	Hours
<b>College Integrative Course</b> .....	3
AGRI/NRES 103 Intro to Agricultural & Natural Resource Systems .....	3
<b>Natural Science Courses</b> .....	50-57
CASNR approved life sciences .....	20-25
Cellular Biology .....	8
BIOS 102 Cell Structure & Function .....	4
BIOS 312 Fundamentals of Microbiology .....	3
BIOS 314 Microbiology Lab .....	1
Organismic Biology .....	4
BIOS 103 Organismic Biology .....	4
Genetics .....	4
AGRO 315 Genetics or BIOS 206 General Genetics .....	4
Anatomy and Physiology .....	4-9
ASCI 240 Anatomy & Physiology of Domestic Animals (4 cr)	4
BIOS 213 & 213L Human Physiology & Lab (4 cr) and BIOS 214 Human Anatomy (5 cr)	26
Physical Sciences .....	4-6
CHEM 109 General Chemistry I .....	4
CHEM 110 General Chemistry II .....	4
CHEM 251 Organic Chemistry .....	3
CHEM 252 Organic Chemistry .....	3
CHEM 253 Organic Chemistry Lab .....	1
CHEM 254 Organic Chemistry Lab .....	1
PHYS 141 Elementary General Physics I .....	5
PHYS 142 Elementary General Physics II .....	5
Biological Chemistry .....	4-6
BIOC 321 & 321L Elements of Biochemistry & Lab (4 cr)	4
BIOC 431 Biomolecules & Metabolism & BIOC 433 Biochemistry Lab (6 cr)	6
<b>Mathematics and Statistics</b> .....	5
MATH 102 Trigonometry .....	2
STAT 218 Intro to Statistics .....	3
<b>Communications</b> .....	9
Written Communication .....	6
<b>NOTE:</b> Two composition courses required, one 100-level course and one 200- or higher-level course.	
100-level course. Select one from: .....	3
ENGL 150 Writing: Rhetoric as Inquiry (3 cr)	
ENGL 151 Writing: Rhetoric as Argument (3 cr)	
JGEN 120 Basic Business Communication (3 cr)	
200-level course. Select one from: .....	3
ENGL 254 Rhetorical Practice & Writing Communities (3 cr)	
JGEN 200 Technical Communication I (3 cr)	
JGEN 300 Technical Communication II (3 cr)	
Oral Communication .....	3
Select one from:	
COMM 209 Public Speaking (3 cr)	
COMM 286 Business & Professional Communication (3 cr)	

<b>Economics, Humanities and Social Sciences</b> .....	<b>15</b>
ECON 211 or ECON 212 or AEVN 141 .....	3
ACE Courses.....	12
Select one course each from ACE outcomes 5, 7, 8, and 9.	
<b>Management/Finance</b> .....	<b>3-4</b>
Select one from:	
ACCT 201 Introductory Accounting I (3 cr)	
AEVN 201 Farm & Ranch Management (4 cr)	
AEVN 256 Legal Aspects in Agriculture (3 cr)	
FINA 260 Personal Finance (3 cr)	
MNGT 121 Intro to Entrepreneurial Management (3 cr)	
MNGT 320 Principles of Management (3 cr)	
MNGT 361 Personnel/Human Resource Management (3 cr)	
<b>Veterinary Science</b> .....	<b>1</b>
VBMS 101 Intro to Animal Health Careers	
<b>Elective</b> .....	<b>0-9</b>

### Biomedical Sciences Option

The Biomedical Sciences Option is a four-year baccalaureate degree program, with a program of studies designed to fulfill the educational requirements for students with interests in allied career fields of veterinary and biomedical sciences, and animal well-being. The focus of the option is on animal health and wellness with a biomedical sciences orientation, and biotechnology. The hallmark of the option is educational concepts of fundamental biology and technology in science, with emphasis on the interrelationships existing between animal health and well-being and biomedical sciences. This option prepares students for application to a professional college or school of veterinary medicine, graduate school, or, positions in animal health product sales, technical positions in industrial, governmental agencies or academic settings, or a broad scope of positions in a variety of agriculture or science career opportunities.

<b>Core Requirements</b> .....	<b>Hours</b> 95-97
<b>Biomedical Sciences Option</b> .....	<b>31-33</b>
College Integrative Course (Capstone Course) .....	4
VBMS 403 Integrated Principles & Prevention of Livestock Diseases	
Humanities and Social Sciences .....	3
Elective –To be selected from lower level modern languages courses.	
Veterinary and Biomedical Sciences .....	11
VBMS 408 Functional Histology.....4	
VBMS 410 General Pharmacology & Toxicology.....4	
VBMS 441 Pathogenic Microbiology .....	3
Electives .....	13-15
<b>Total Hours for Graduation</b> .....	<b>128</b>

### Microbiology Option

The Microbiology Option is a four-year baccalaureate degree program, with a program of studies designed to fulfill the educational requirements for students with interests in allied career fields of veterinary and biomedical sciences, and microbiology. The focus of the option is on animal health and wellness with a microbiology orientation, and biotechnology. The hallmark of the option is educational concepts of fundamental biology and technology in science, with emphasis on interrelationships existing between animal health and well-being and microbiology. This option prepares students for application to a professional college or school of veterinary medicine, graduate school, or, positions in animal health product sales, technical positions in industrial, governmental agencies or academic settings, or a broad scope of positions in a variety of agricultural or science career opportunities.

<b>Requirements</b> .....	<b>Hours</b> 95-97
<b>Microbiology Option</b> .....	<b>31-33</b>
VBMS 403 Integrated Principles & Prevention of Livestock Diseases.....	4
VBMS 424 Basic Molecular Infectious Diseases.....3	
VBMS 441 Pathogenic Microbiology.....	3
VBMS 408 Functional Histology or VBMS 410 General Pharmacology & Toxicology.....4	
BIOS 326 Biology of Viruses.....3	
Microbiology electives .....	7
General Electives .....	7-9
<b>Total</b> .....	<b>128</b>

  

<b>Microbiology Electives</b>	
AGRO 460 Soil Microbiology (BIOS 447/847, NRES 460/860, SOIL 460) (3 cr)	
BIOS 205 Genetics, Molecular & Cell Biology Lab (2 cr)	
BIOS 313 Molecular Biology Lab (2 cr)	
BIOS 385 Parasitology (4 cr)	
BIOS 420 Molecular Genetics (3 cr)	
BIOS 427 Practical Bioinformatics Lab (3 cr)	
BIOS 440 Microbial Physiology (3 cr)	
BIOS 443 Immunology (3 cr)	
ENTO 416 Veterinary Entomology/Ectoparasitology (VBMS, ASCI, NRES 416/816) (3 cr)	
FDST 372 Food Safety & Sanitation (3 cr)	
FDST 405 Food Microbiology (3 cr)	
FDST 406 Food Microbiology Lab (2 cr)	
FDST 425 Food Toxicology (2 cr)	
FDST 455 Microbiology of Fermented Foods (3 cr)	
PLPT 370 Biology of Fungi (3 cr)	

### Veterinary Medicine Option

The following courses are required for a Veterinary Medicine Option in the veterinary science degree program. Undergraduate courses included in this degree program will fulfill the prerequisites for admission to most colleges of veterinary medicine.<sup>7</sup> However, completion of the general education courses at UNL **does not guarantee acceptance to a professional curriculum**.

<b>Requirements</b> .....	<b>Hours</b> 95
<b>Veterinary Medicine Option</b> .....	<b>34</b>
College Integrative Course (capstone course).....1-2	
VBMS 488 Exploration of Production Medicine <sup>8</sup> (2 cr) or equivalent at an accredited college of veterinary medicine <sup>9</sup> (1 cr)	
Selected equivalent course from college/school of veterinary medicine <sup>9</sup> .....	33
Ethics & Jurisprudence <sup>9</sup> (capstone course) .....	1
Gross Anatomy I.....	6
Gross Anatomy II .....	6
Microanatomy .....	5
Veterinary Physiology I.....	5
General Veterinary Pathology .....	5
Systemic Veterinary Pathology .....	5
<b>Total Hours for Graduation</b> .....	<b>129</b>

## Veterinary Technology

**Head:** Professor David Hardin, Department of Veterinary and Biomedical Sciences, 120C Vet Basic Sciences

This curriculum integrates academic programs at the Nebraska College of Technical Agriculture (NCTA), or other accredited veterinary technology programs, and the College of Agricultural Sciences and Natural Resources, Department of Veterinary and Biomedical Sciences at the University of Nebraska–Lincoln (UNL). This degree program is appropriate for veterinary technicians desiring a broader education than offered in an associates degree program. Students selecting this degree program must complete the entire Veterinary Technology Program leading to the associate of applied science (AAS) degree and pass the certification examination administered at their respective institution. Selected courses from a respective accredited veterinary technology program are transferable to UNL and contribute to the course requirements for the veterinary technology degree. The number of courses transferable from the veterinary technology curriculum varies with the Veterinary Technology Option chosen and ranges from about 50 to 60 credits. This option is a 3+2 option requiring two years of study at an accredited technology program (not available in Lincoln) in addition to and most often preceding the equivalent of three academic years at UNL. Due to the unique requirement at the technology program, the department recommends visiting with an adviser prior to enrollment in the veterinary technology degree program. Students most often start at an accredited veterinary technology program.

This baccalaureate degree program includes three curricular options.

Veterinary technology graduates may seek employment as assistants to veterinarians, biological research workers and other science or animal related positions. In addition to veterinary practices, veterinary technologists may be employed in a variety of environments including biological research laboratories (including management) veterinary technology education, drug or feed manufacturing companies (including technical and sales representatives), animal production facilities, humane societies and zoos. Veterinary office management is a relatively new area for which graduates with the Business Option are ideally suited. Graduates with the Veterinary Science Option may also apply to and be accepted into a professional school to become a veterinarian.

Additional details are available from the Department of Veterinary and Biomedical Sciences.

### Core Curriculum

The following courses are required for the veterinary technology degree program in the Department of Veterinary and Biomedical Sciences:

<b>College Integrative Courses</b> .....	<b>Hours</b> 7
AGRI/NRES 103 Intro to Agricultural & Natural Resource Systems .....	3
Capstone Course <sup>10</sup> .....	4

<sup>10</sup> Equivalent of courses taken at Nebraska College of Technical Agriculture (NCTA), will include VTE 2733 Large Animal Diseases (3 cr) concurrent with

VBMS 403 Integrated Principles & Prevention of Livestock Diseases	
<b>Natural Sciences</b>	<b>13</b>
CASNR approved life sciences	4
BIOS 102 Cell Structure & Function or BIOS 101 General Biology & Lab	4
Physical Sciences	9
CHEM 109 General Chemistry I	4
PHYS 141 Elementary General Physics (5 cr) or PHYS 151 & 153 Elements of Physics & Lab (5 cr) or MSYM 109 & 109L Physical Principles in Agriculture & Lab (5 cr)	5
<b>NOTE:</b> Physics course(s) taken should meet pre-veterinary and additional course prerequisites if application to professional school is intended. Consult your adviser regarding which courses fulfill this requirement.	
<b>Mathematics and Statistics</b>	<b>5</b>
MATH 102 Trigonometry	2
STAT 218 Intro to Statistics	3
<b>Communications</b>	<b>9</b>
Written Communication	6
<b>NOTE:</b> Two composition courses required, one 100-level course and one 200- or higher-level course. 100-level course. Select one from:	3
ENGL 150 Writing: Rhetoric as Inquiry (3 cr)	
ENGL 151 Writing: Rhetoric as Argument (3 cr)	
JGEN 120 Basic Business Communication (3 cr) 200-level course. Select one from:	3
JGEN 200 Technical Communication I (3 cr)	
JGEN 300 Technical Communication II (3 cr)	
Oral Communication	3
Select one from:	
COMM 109 Fundamentals of Human Communication (3 cr)	
COMM 209 Public Speaking (3 cr)	
COMM 286 Business & Professional Communication (3 cr)	
<b>Economics, Humanities and Social Sciences</b>	<b>15</b>
ECON 211 or ECON 212 or AECN 141	3
ACE Courses	12
Select one course each from ACE outcomes 5, 7, 8, and 9.	
<b>Veterinary Science Option</b>	
<b>Requirements and Electives</b>	<b>78-80</b>
CASNR approved life sciences	12
BIOS 103 Organismic Biology	4
BIOS 312 Fundamentals of Microbiology	3
BIOS 314 Microbiology Lab	1
Genetics: AGRO 315 Genetics or BIOS 206 General Genetics	4
Physical Sciences	17
CHEM 110 General Chemistry II	4
CHEM 251 Organic Chemistry	3
CHEM 253 Organic Chemistry Lab	1
CHEM 252 Organic Chemistry	3
CHEM 254 Organic Chemistry Lab	1
PHYS 142 Elementary General Physics	5
Biological Chemistry	4-6
BIOC 321 & 321L Elements of Biochemistry & Lab (4 cr) or BIOC 431 & 433 Biomolecules & Metabolism & Lab (6 cr)	
Animal Science	4
ASCI 240 Anatomy & Physiology of Domestic Animals (4 cr) or VT 1404 Anatomy & Physiology of Domestic Animals, Lec & Lab (4 cr) <sup>11</sup>	
Business	6-8
Select two courses from any two of the following five areas:	
Accounting	
ACCT 201 Introductory Accounting I (3 cr)	
ACT 1103 Accounting I (3 cr) <sup>11</sup>	
Computing	
AGRI 271 Intro to Computer Applications in Agriculture (3 cr)	
AIT 1053 Intro to Computers (3 cr) <sup>11</sup> and AB 109 Hardware & Applications (2 cr) <sup>11</sup> (5 cr)	
Finance	
AECN 452 Agricultural Finance (3 cr)	
FINA 260 Personal Finance (3 cr)	
FINA 361 Finance (3 cr)	
ABM 2043 Finance (3 cr) <sup>11</sup>	
Management	
AECN 201 Farm & Ranch Management (4 cr)	
MNGT 121 Intro to Entrepreneurial Management (3 cr)	
MNGT 320 Principles of Management (3 cr)	
MNGT 360 Managing Behavior in Organizations (3 cr)	
VTE 2731 Capstone (1 cr). This course combination will provide the intent and educational outcome of a Capstone experience.	
<sup>11</sup> Courses offered at NCTA, Curtis, NE. Business courses listed have not yet been granted equivalency status and cannot be freely substituted in other majors. Credit for majors in the College of Business Administration is not guaranteed.	

<b>Computing</b>	
AGRI 271 Intro to Computer Applications in Agriculture (3 cr)	
AIT 1053 Intro to Computers (3 cr) <sup>11</sup>	
<b>Finance</b>	
AECN 452 Agricultural Finance (3 cr)	
FINA 260 Personal Finance (3 cr)	
FINA 361 Finance (3 cr)	
ABM 2043 Finance (3 cr) <sup>11</sup>	
<b>Management</b>	
AECN 201 Farm & Ranch Management (4 cr)	
MNGT 121 Intro to Entrepreneurial Management (3 cr)	
MNGT 320 Principles of Management (3 cr)	
MNGT 360 Managing Behavior in Organizations (3 cr)	
MNGT 361 Personnel/Human Resource Management (3 cr)	
Veterinary Science	1
VBMS 101 Intro to Animal Health Careers	
Science Electives	6
Free Electives	3-8
Veterinary Technology (selected equivalent courses) <sup>11</sup>	32 <sup>12</sup>
<b>Minimum Requirements for Graduation</b>	<b>128</b>

## Business Option<sup>12</sup>

<b>Requirements and Electives</b>	<b>76-77</b>
CASNR approved life sciences	4
Genetics: AGRO 315 Genetics (4 cr) or BIOS 206 General Genetics (4 cr)	
Physical Sciences	4
CHEM 110 General Chemistry II (4 cr)	
Animal Science	4
ASCI 240 Anatomy & Physiology of Domestic Animals (4 cr) or VT 1404 Anatomy & Physiology of Domestic Animals, Lec & Lab (4 cr) <sup>11</sup>	
Business	19-20
Core Courses	13
Select one course from each of the following areas:	
Accounting	
ACCT 201 Introductory Accounting I (3 cr)	
ACT 1103 Accounting I (3 cr) <sup>11</sup>	
Business Management	
AECN 201 Farm & Ranch Management (4 cr)	
Management	
MNGT 360 Managing Behavior in Organizations (3 cr)	
MNGT 361 Personnel/Human Resource Management (3 cr)	
MGT 2503 Human Resource Management (3 cr) <sup>11</sup>	
Marketing	
AECN 225 Agribusiness & Food Products Marketing (3 cr)	
AECN 325 Marketing of Agricultural Commodities (3 cr)	
MRKT 341 Marketing (3 cr)	
Business Electives	6-7
Select at least two courses from the following areas:	
Accounting	
ACCT 202 Introductory Accounting (3 cr)	
ACT 1203 Accounting II (3 cr) <sup>11</sup>	
Business and Agribusiness Management	
AECN 316 Agribusiness Management (4 cr)	
Business Law	
AECN 256 Legal Aspects in Agriculture (3 cr)	
BLAW 371 Legal Environment (3 cr)	
ABM 2303 Business Law & Real Estate (3 cr) <sup>11</sup>	
Finance	
AECN 452 Agricultural Finance (3 cr)	
FINA 260 Personal Finance (3 cr)	
FINA 361 Finance (3 cr)	
ABM 2403 Finance (3 cr) <sup>11</sup>	
Marketing and Salesmanship	
MRKT 347 Marketing Communications Strategy (3 cr)	
MRKT 458 Sales Management (3 cr)	
SPC 1103 Sales Communication (3 cr) <sup>11</sup>	
Veterinary Science	1
VBMS 101 Intro to Animal Health Careers	
Free Electives	9-12
Veterinary Technology (selected equivalent courses) <sup>11</sup>	35 <sup>12</sup>
<b>Minimum Requirements for Graduation</b>	<b>128</b>

## Veterinary Science Minor

The Veterinary Science minor is designed for students from across University boundaries with interests in animal health, biotechnology, and

<sup>12</sup> These credits, or the equivalent, will be transferred from NCTA or other accredited Veterinary Technology Programs for students who complete the entire program, qualify academically to receive an associate in applied science degree, and pass the national certification examination, or the equivalent, administered at their respective institution.

biomedical sciences. Students completing a minor in veterinary science will be better prepared to apply to professional schools and will also be candidates for graduate research positions after they complete their baccalaureate degree. The course of study leading to the minor should be developed in consultation with the Chief Preveterinary Adviser in the Department of Veterinary and Biomedical Sciences. A total of no more than 3 hours of credit in VBMS 496 can be applied to the minor. The veterinary science minor will consist of satisfactory completion of at least 12 credit hours of formal course work in veterinary and biomedical sciences selected from the following upper division courses:

	Hours
VBMS 303 Principles & Prevention of Livestock Diseases	3
VBMS 403 Integrated Principles & Prevention of Livestock Diseases	4
VBMS 408 Functional Histology	4
VBMS 410 General Pharmacology & Toxicology	4
VBMS 416 Veterinary Entomology	2
VBMS 416L Veterinary Entomology Lab	1
VBMS 424 Basic Molecular Infectious Diseases	3
VBMS 441 Pathogenic Microbiology	3
VBMS 488 Exploration of Production Medicine	2
VBMS 496 Independent Study in Veterinary Science	1-3
VBMS 499H Honors Thesis	3

## Courses of Instruction (VBMS)

**101. Introduction to Animal Health Careers** (1 cr I) Lec 1. Prereq: Major in veterinary science or veterinary technologist or preveterinary medicine program. *Required for a major in veterinary science or veterinary technologist or preveterinary medicine program. Meet and select faculty mentor. Pass/No Pass only.* Explore potential majors and career track in animal health. Information to make realistic and informed decisions about preparation for veterinary school, animal nursing and various alternative animal health career. Survey of informational resources, published material, and campus-based student services.

**303. Principles and Prevention of Livestock Diseases** (3 cr II) Prereq: Juniors and seniors; ASCI 240 and BIOS 300 or 312 recommended, or permission. Management techniques in the control of metabolic, infectious, and parasitic diseases of domestic animals and understanding of basic concepts of the important diseases of livestock.

[IS] **403. Integrated Principles and Prevention of Livestock Diseases** (4 cr II) Prereq: ASCI 240, BIOS 312, CHEM 251. Emphasizes integrated management techniques of livestock, and understanding the basic integrated concepts of the important diseases of domestic animals. Biotechnology in animal health and current issues in management practices to control diseases.

**408/808. Functional Histology** (BIOS 408/808) (4 cr I) Lec 3, lab 2. Prereq: BIOS 101 and 101L, or 102 or 112; ASCI 240. BIOS 315 recommended. Microscopic anatomy of the tissues and organs of major vertebrate species, including humans. Normal cellular arrangements of tissues and organs as related to their macroscopic anatomy and function, with reference to sub-cellular characteristics and biochemical processes. Functional relationships among cells, tissues, organs and organ systems, contributory to organismal well being. General introduction to pathological processes and principles underlying some diseases.

[IS] **410. General Pharmacology and Toxicology** (4 cr I) Lec 3. Prereq: CHEM 251 and 253; BIOS 213 or ASCI 240, or equivalent; or permission. CHEM 252 and 254, BIOC/CHEM/BIOS 431 and 433 recommended. Introduction and overview of basic principles and sciences of drug action (as therapeutic agents) and of adverse (toxic) effects of harmful chemical substances. Application of these concepts and selected examples to current and controversial issues in animal production and care, regulatory concerns, legal and ethical decisions, human and animal health hazards, food safety and environmental contamination.

**416/816. Veterinary Entomology/Ectoparasitology** (ASCI, ENTO, NRES 416/816) (2 cr II) Lec 2. Prereq: 10 hrs entomology or biological science or related fields or permission. For course description, see ENTO 416/816.

**416L/816L. Veterinary Entomology/Ectoparasitology Lab** (ASCI, ENTO, NRES 416L/816L) (1 cr I) Prereq: ENTO/ASCI/NRES/VBMS 416L/816L; or parallel. For course description, see ENTO 416L/816L.

**424/824. Basic Molecular Infectious Diseases** (3 cr I) Lec 3. Prereq: BIOS 312; AGRO 360 or equivalent; or permission. *Offered spring semester of odd-numbered calendar years.* Introduction to the molecular, genetic and cellular aspects of microbial pathogenesis in humans and animals.

**441/841. Pathogenic Microbiology** (BIOS 441/841) (3 cr II) Lec 3. Prereq: BIOS 312 and either 313 or 314, or permission. Fundamental principles involved in host-microorganism interrelationships. Identification of pathogens, isolation, propagation, mode of transmission, pathogenicity, symptoms, treatment, prevention of disease, epidemiology, and methods of control.

**441L/841L. Pathogenic Microbiology Laboratory** (1 cr II) Prereq: BIOS 312 and 313 (314) or permission. Application of diagnostic microbiological techniques to the isolation, propagation and identification of common pathogens of human beings and animals. Case studies used, in the laboratory setting, to explore and test fundamentals of transmission, epidemiology and pathogenesis of selected infectious agents and to relate these to disease signs, treatments and methods of control.

**488. Exploration of Production Medicine**<sup>1</sup> (2 cr III) Lec 2. Prereq: Acceptance to an accredited college of veterinary medicine. *Course to be taught at the Great Plains Veterinary Educational Center at Clay Center, Nebraska.*

Introduction to production medicine and animal health management that weaves together the interrelationship of pasture ecology, animal nutrition, animal well-being, environmental assessment, worker safety, and pre-harvest food safety. Emphasis on the interrelationships between scientific disciplines, and sustainable agriculture. Assessment of normal production potential and health of food producing animals (beef cattle, swine, and sheep) and indicators of abnormal health. Introduction to techniques used to evaluate animal well-being, to computerized information management, and to the veterinarian's role in sustainable agriculture.

**496. Independent Study in Veterinary Science** (1-5 cr, max 12 I, II) Prereq: 12 hrs veterinary science or closely related areas and permission.

Individual or group projects in research, literature review, or extension of course work under supervision and evaluation of a departmental faculty member.

**499H. Honors Thesis** (3-6 cr, max 6 I, II, III) Prereq: Admission to the University Honors Program and permission, AGRI 299H recommended.

Conduct a scholarly research project and write a University Honors Program or undergraduate thesis.

**805. Introduction to Mechanisms of Disease** (3 cr I) Lec 3. Prereq: ASCI 240 or equivalent, BIOC/BIOS/CHEM 431/831, VBMS/BIOS 441/841, or permission. *Offered odd-numbered calendar years.*

Designed for students of biological, animal, and veterinary sciences. Introduction to general pathology emphasizing etiology, pathogenesis, morphologic features, and fundamental alterations associated with the fundamental changes of disease.

**811. Introduction to Veterinary Epidemiology** (2 cr) Lec/disc and lab. Prereq: Permission.

**818. Computer-aided Sequence Analysis Primer** (BIOS 816) (2 cr I) Prereq: BIOC 831 or BIOS 350 or BIOS 820. *No computer literacy needed.*

**820. Molecular Genetics** (BIOS 420/820) (3 cr) Prereq: 12 hours biological sciences including BIOS 206 or equivalent.

**835. Animal Biochemistry** (BIOS 835)

**838. Molecular Biology Laboratory** (BIOC, BIOS 838) (5 cr III) Lec 6, lab 27. Prereq: BIOC 432, BIOS 312 and 313, an advanced course in genetics, and permission.

**840. Microbial Physiology** (BIOS 840) (5 cr) Prereq: BIOS 312 and either 313 or 314 or permission.

**842. Endocrinology** (ASCI, BIOS 442/842) (3 cr I) Lec 3. Prereq: A course in vertebrate physiology and/or biochemistry.

**843. Immunology** (BIOS 443/843) (3 cr) Prereq: BIOS 206 and one semester organic chemistry. BIOS 102 recommended.

**844. Immunology Laboratory** (2 cr) Prereq: BIOS 843.

**845. Physiology of Domestic Animals I** (ASCI 845, BIOS 813) (4 cr I) Lec 3, rct/lab 3. Prereq: CHEM 251 and BIOS 112 or ASCI 241.

**846. Physiology of Domestic Animals II** (ASCI 846, BIOS 814) (4 cr II) Lec 3, rct/lab 3. Prereq: VBMS 845 or permission.

**848. Introduction to Veterinary Biotechnology** (1-2 cr) Prereq: 12 hours in veterinary and biomedical sciences, or DVM degree, or equivalent and permission.

**852. Molecular Virology and Viral Pathogenesis** (BIOS \*852) (3 cr I) Lec 3. Prereq: BIOS 443/843. *Offered even-numbered calendar years.*

**899. Masters Thesis** (6-10 cr)

*Refer to the Graduate Bulletin for 900-level courses.*

**NOTE:** Students should check with their advisers or the Dean's Office about alternatives in this curriculum.

## Water Science

**Coordinator:** Aris Holz, School of Natural Resources, 502 Hardin Hall, 472-8182, aholz2@unl.edu

**Water Science Curriculum Committee:** Eisenhauer, J. Holz, Lenters, Lubben

The degree program in water science is designed to educate students in basic and applied sciences related to water resources. The goal is to educate individuals to gather and synthesize information from several disciplines, to formulate ecologically and economically rational alternatives, and to effectively implement various water-based programs.

The curriculum is designed to meet the needs of students who intend to pursue careers in agencies that form or implement policy at all levels of government, in public and private organizations that manage water and land resources, in private consulting companies that offer water management services and in a broad range of nonprofit institutions that are interested in water resources. The program also provides students the opportunity to prepare for advanced education in several areas of graduate studies.

A minimum of 128 credit hours is required for the bachelor of science degree. Of these requirements, 25-29 credits are in an integrated water science curriculum designed to provide both breadth and depth in water resources. The water science degree program also requires 25 credit hours of science and mathematics. In addition, the student must select an option area consisting of approximately 18-26 credit hours. The option allows students to develop an individualized area of study. To complete the degree the student must take 24 credit hours of communication, humanities and social science courses.

Option areas include:

- Aquatic Ecology
- Hydrology
- Watershed Management
- Water Law and Policy
- Water Quality

Application for UNL freshman scholarships automatically makes you eligible for SNR scholarships. Many scholarships are available, including the Viessman Scholarship, specifically for students in water science. For more information, visit <http://snr.unl.edu>.

## Requirements

	Hours
<b>Natural Resources Core .....</b>	<b>24-25</b>
NRES/AGRI 103 Intro to Agricultural & Natural Resource Systems .....	3
NRES 220 & 222 Principles of Ecology & Lab .....	4
NRES 312 Intro to Geospatial Information Sciences <b>or</b> NRES 412 Intro to Geographic Information Systems .....	3-4
NRES 323 Natural Resources Policy .....	3
SOIL 153 Soil Resources .....	4
WATS 465 Resource & Environmental Economics II ..	3
NRES 499 Thesis Research (2 cr) <b>or</b> WATS 498A & 498B Senior Project I & II (2 cr each) .....	4
<b>NOTE: The Senior Project fulfills the capstone requirement for water science students. The course consists of 2 credit hours in each of the last two semesters before a student graduates. The project is usually provided by private industry, government agencies, or nonprofit organizations. The senior thesis consists of research designed by the student along with the aid of faculty.</b>	
<b>Natural Sciences .....</b>	<b>17</b>
BIOS 101 & 101L General Biology & Lab .....	4
BIOS 109 General Botany <b>or</b> BIOS 112 & 112L Intro to Zoology & Lab .....	4
CHEM 109 General Chemistry I .....	4
MSYM 109 & 109L Physical Principles in Agriculture and Lab .....	5
<b>or</b> PHYS 141 Elementary General Physics I (5 cr) <b>or</b> PHYS 151 & 153 Elements of Physics and Lab (5 cr) <b>or</b> PHYS 211 & 221 General Physics I and Lab (5 cr)	
<b>Mathematics and Statistics .....</b>	<b>8</b>
MATH 106 Analytic Geometry & Calculus I <b>or</b> MATH 106B Calculus I for Biology & Medicine ..	5
STAT 218 Intro to Statistics .....	3
<b>Communication .....</b>	<b>9</b>
Written Communication .....	3
Select from: ENGL 150, 151, 254; JGEN 120, 200, 300	
Oral Communication .....	3
Select from: COMM 109, 209, 286	
Communication and Interpersonal Skills electives .....	3
JOUR 444 Science Writing .....	15
<b>Economics, Humanities and Social Sciences .....</b>	<b>15</b>
ECON 211 or ECON 212 or AECN 141 .....	3
ACE Courses .....	12
Select one course each from ACE outcomes 5, 7, 8, and 9.	

## Water Sciences Core

<b>Requirements.....</b>	<b>25-29</b>
Water Science Core Courses .....	16-18
CIVE 353 Hydrology .....	3
GEOL 100 Intro to Geology (3 cr) <b>or</b> GEOL 101 Physical Geology (4 cr) <b>or</b> GEOL 106 Environmental Geology (3 cr) <b>or</b> NRES 108 Earth's Natural Resource Systems Lab (3 cr) <b>or</b> NRES 208 Applied Climate Science (3 cr) <b>or</b> NRES 408 Microclimate: The Biological Environment (3 cr) .....	3-4
NRES 415 Water Resources Seminar .....	1
WATS 281 Intro to Water Science .....	3
WATS 354 Soil Conservation & Watershed Management .....	3

Law, Policy and Management .....	3
<i>Select one of the following:</i>	
AECN 357 Natural Resources & Environmental Law (3 cr)	
CRPL 470 Environmental Planning & Policy (3 cr)	
NRES 423 Integrated Resource Management (3 cr)	
WATS 475 Water Quality Strategy (3 cr)	
Science and Technology .....	6-8
<i>Select two of the following:</i>	
NRES 463 Fisheries Science (4 cr)	
NRES 488 Groundwater Geology (3 cr)	
WATS 361 Soils, Environment & Water Quality (3 cr)	
WATS 418 Chemistry of Natural Waters (3 cr)	
WATS 452 Irrigation Systems Management (3 cr)	
WATS 459 Limnology (4 cr) <b>or</b> WATS 468 Wetlands (4 cr) (or students may substitute NRES 496 River & Stream Ecology)	

**NOTE: Courses taken in the Water Science Core do not count toward the Water Science Options.**

Major Subtotal .....	98-103
Option Requirements and Electives .....	18-26
Free Electives .....	0-12
<b>Total Credit Hours for Graduation .....</b>	<b>128</b>

## Options

Students must consult with an adviser to select an option prior to the beginning of their junior year.

**NOTE: Courses taken in the Water Science Options do not count toward the Water Science Core.**

### Aquatic Ecology Option

This option is designed for students interested in lake, river, stream, or wetland ecology. Students are prepared for careers as research scientists or technicians with public agencies, private consulting firms, universities, and nonprofit organizations. Completion of this program provides excellent preparation for graduate study.

<b>Aquatic Ecology Option .....</b>	<b>18-20</b>
Requirements .....	15-16
BIOS 109 General Botany <b>or</b> BIOS 112 & 112L Intro to Zoology and Lab .....	4
BIOS 457 Ecosystem Ecology (4 cr) <b>or</b> GEOL 424 Biogeochemical Cycles (3 cr) .....	3-4
CHEM 110 General Chemistry II .....	4
WATS 459 Limnology (or students may substitute NRES 496 River & Stream Ecology) .....	4
Electives .....	3-4
<i>Select one of the following electives:</i>	
BIOS 473 Freshwater Algae (4 cr)	
NRES 402 & 402L Aquatic Insects and Lab (3 cr)	
NRES 470 Lake & Reservoir Restoration (3 cr)	
NRES 468 Wetlands (4 cr)	
NRES 489 Ichthyology (4 cr)	
Free Electives .....	5-12

### Hydrology Option

This option trains students in the quantitative aspects of hydrologic sciences and is designed for students considering careers as a professional hydrologist, research scientist, or consultant (among others). Completion of this program provides excellent preparation for graduate study.

<b>Hydrology Option .....</b>	<b>19-20</b>
Requirements .....	16
NRES 488 Groundwater Geology .....	3
MATH 107 Analytical Geometry & Calculus II	5
PHYS 212 & 222 General Physics II and Lab .....	5
WATS 461 Soil Physics .....	3
Electives .....	3-4
<i>Select one of the following electives:</i>	
CHEM 110 General Chemistry II (4 cr)	
CIVE 456 Surface Water Hydrology (3 cr)	

    GEOL 424 Chemistry of Natural Waters .....

GEOL 472 Water in Geosciences (3 cr)	
MATH 208 Analytical Geometry & Calculus III (4 cr)	
MATH 221 Differential Equations (3 cr)	
Free Electives .....	5-11

## Water Law and Policy Option

Under this option, a student gains expertise in water issues pertaining to water quality, quantity, allocation, and planning. Careers in this rapidly emerging field of water include lobbyists, community planners, public and tribal liaisons, and policy makers to name some. This option also prepares students for continued education in water law.

**NOTE: Students in the Water Law and Policy Option should select AECN 357 under the Law Policy, and Management cluster of the Water Science core.**

<b>Requirements .....</b>	<b>21</b>
AECN 265 Resource & Environmental Economics I ..	3
AECN 456 Environmental Law .....	3
AECN 457 Water Law .....	3
CRPL 470 Environmental Planning & Policy .....	3
ECON 211 Principles of Macroeconomics .....	3
POLS 235 Public Policy: Concepts & Processes .....	3
SOCI 446 Environmental Sociology .....	3
Free Electives .....	4-9

## Water Quality Option

This option trains students with a desire to pursue a career examining water quality within lakes, streams, rivers, and groundwater. This option is designed for students considering careers as water quality specialists, research scientists, laboratory and field technicians, environmental chemists, and many more.

<b>Water Quality Option .....</b>	<b>22-26</b>
Requirements .....	16-17
CHEM 110 General Chemistry II .....	4
CHEM 251 Organic Chemistry (3 cr) <b>or</b> CHEM 221 Elementary Quantitative Analysis (4 cr) ..	3-4
GEOL 418 Chemistry of Natural Waters .....	3
NRES 475 Water Quality Strategy .....	3
SOIL 361 Soils, Environment, & Water Quality 3	
Electives .....	6-9
<i>Select two of the following electives:</i>	
BIOS 312 Fundamentals of Microbiology (3 cr)	
CIVE 456 Surface Water Hydrology (3 cr)	
GEOL 424 Water in Geosciences (3 cr)	
NRES 470 Lake & Reservoir Restoration (3 cr)	
NRES 488 Groundwater Geology (3 cr)	
MATH 107 Analytical Geometry & Calculus II (5 cr)	
PHYS 212 General Physics II (4 cr)	
STAT 318 Intro to Statistics II (3 cr)	
WATS 459 Limnology (or students may substitute NRES 496 River & Stream Ecology) (4 cr)	
Free Electives .....	0-8

## Watershed Management Option

Watershed management is the management of the water, land, and biological resources to achieve a desired outcome of the water quality and water quantity. This option is designed for students considering careers as water resource managers working for local, state, and federal agencies and private consultants.

<b>Requirements .....</b>	<b>20</b>
AECN 357 Natural Resources & Environmental Law ..	3
CHEM 110 General Chemistry II .....	4
NRES 488 Groundwater Geology .....	3
WATS 361 Soils, Environment & Water Quality .....	3
WATS 452 Irrigation Systems Management .....	3
WATS 459 Limnology (or students may substitute NRES 496 River & Stream Ecology) .....	4

## Water Science Minor

Required Courses.....	<b>6</b>
WATS 281 Intro to Water Science.....	3
WATS 354 Soil Conservation & Watershed Management.....	3
<b>Advanced Courses.....</b>	<b>12-15</b>
Law, Policy and Management.....	3
<i>Select at least one of the following:</i>	
AECN 357 Natural Resources & Environmental Law (3 cr)	
CRPL 470 Environmental Planning & Policy (3 cr)	
NRES 423 Integrated Resources Management (3 cr)	
WATS 465 Resource & Environmental Economics II (3 cr)	
WATS 475 Water Quality Strategies (3 cr)	
Science and Technology.....	6-8
<i>Select at least two of the following:</i>	
CIVE 353 Hydrology (3 cr)	
NRES 463 Fisheries Science (4 cr)	
NRES 488 Groundwater Geology (3 cr)	
WATS 361 Soils, Environment & Water Quality (3 cr)	
WATS 408 Microclimate: The Biological Environment (3 cr)	
WATS 418 Chemistry of Natural Waters (3 cr)	
WATS 452 Irrigation Systems Management (3 cr)	
WATS 459 Limnology (4 cr) <b>or</b> WATS 468 Wetlands (4 cr) ( <i>or students may substitute NRES 496 River &amp; Stream Ecology</i> )	

## Courses of Instruction (WATS)

[ES][IS] 281. **Introduction to Water Science** (GEOG, NRES 281) (3 cr II) Prereq: High school chemistry or one semester college chemistry; one course in geology or physical geography or soil. Survey of the water science from the perspective of both natural and social sciences. Water budget, precipitation, evapotranspiration, runoff and stream flow, groundwater, water quality parameters, economics of water, water policy, water law and water politics.

299. **Career Experiences** (1-5 cr, max 12 I, II, III) Prereq: Permission and advanced approval of plan or work. *Pass/No Pass only*. Student participation in water science applications. May include participation in water resource management, water measurement, water quality monitoring, water supply, water administration; research in laboratories, green houses and fields; or preparation of educational materials.

[IS] 354. **Soil Conservation and Watershed Management** (MSYM, SOIL 354) (3 cr I) Lec 2, lab 3. Prereq: AGRO/SOIL 153 and MATH 109 or equivalent. For course description, see MSYM 354.

361. **Soils, Environment and Water Quality** (AGRO, GEOL, NRES, SOIL 361) (3 cr II) Lec 3. Prereq: AGRO/HORT/SOIL 153; MATH 102 or 103; and one semester CHEM or equivalent. For course description, see SOIL 361.

408. **Microclimate: The Biological Environment** (AGRO, GEOG, HORT, METR, NRES 408/808) (3 cr) Prereq: Junior standing, MATH 106 or equivalent, 5 hrs physics, major in any of the physical or biological sciences or engineering; or permission. For course description, see NRES 408/808.

418. **Chemistry of Natural Waters** (GEOL 418/818, NRES 419/819) (3 cr II) Lec 3. Prereq: Two semesters of college chemistry, or CHEM 109 and 110, 113 and 114, or CHEM 111; or permission. For course description, see GEOL 418/818.

418L. **Chemistry of Natural Waters Laboratory** (GEOL 418L/818L, NRES 419L/819L) (1 cr II) Prereq: 2 semesters of college chemistry or permission. Parallel: GEOL 418/818, NRES 419/819, WATS 418. *Offered even numbered calendar years or as needed*. For course description, see GEOL 418L/818L.

452. **Irrigation Systems Management** (HORT, MSYM 452/852) (3 cr I) Lec 2, lab 2. Prereq: MSYM 109 or general physics; AGRO/SOIL 153 recommended. For course description, see MSYM 452/852.

457. **Water Law** (AECN 457/857, NREE 457) (3 cr II) PSI. Prereq: AECN/NREE 357. Offered even numbered years. Available through Extended Education and Outreach. For course description, see AECN 457/857.

459. **Limnology** (BIOS, NRES 459/859) (4 cr II) Lec 3, lab 4. Prereq: 12 hrs BIOS, including BIOS/NRES 220/BIOS 220X; two semesters CHEM. *May also be offered at Cedar Point Biological Station*. For course description, see NRES 459/859.

461. **Soil Physics** (AGRO, GEOL, NRES 461/861; SOIL 461) (3 cr I) Lec 3. Prereq: AGRO/SOIL 153, PHYS 141 or equivalent, one semester of calculus. Recommended: Parallel AGRO/NRES/ SOIL 458. For course description, see NRES 461/861.

465. **Resource and Environmental Economics II** (AECN 465/865, NREE 465) (3 cr I) Lec 3. Prereq: MATH 104 and one course in statistics. *Credit in AECN 865 will not count toward any advanced degree programs in ECON or AECN*. For course description, see AECN 465/865.

468. **Wetlands** (BIOS 458, NRES 468/868) (4 cr II) Lec 4. Prereq: 12 hrs biological sciences; BIOS 220; CHEM 109 and 110. Offered even-numbered calendar years. For course description, see NRES 468/868.

(ACE 10) 475. **Water Quality Strategy** (AGRO, CIVE, CRPL, GEOL, MSYM, NRES, POLS, SOCI 475/875; SOIL 475) (3 cr II) Lec 3. Prereq: Senior standing or permission. For course description, see AGRO 475/875.

496. **Principles and Problems in Water Science** (1-5 cr, max 12 I, II, III) Prereq: 15 hours in water science or closely related areas.

Individual or group projects in research, literature review, or extension of course work under the supervision and evaluation of a water science faculty member.

498A. **Senior Project I** (2 cr, I, II) Prereq: Senior standing. WATS 498A is the first course of a two-semester sequence of courses consisting of WATS 498A and WATS 498B.

Work as individual or as a team member to develop solutions to water resource problems. Problem involves multi-disciplinary features. Requires independent research, proposal preparation and presentation.

[IS] 498B. **Senior Project II** (2 cr, I, II) Prereq: WATS 498A. WATS 498B is the second course of a two-semester sequence of courses consisting of WATS 498A and WATS 498B.

Continuation of WATS 498A. Carry out proposal and present findings orally and in writing.

499H. **Honors Thesis** (3-6 cr, max 6 I, II, III) Prereq: Admission to the University Honors Program and permission, AGRI 299H recommended.

Conduct a scholarly research project and write a University Honors Program or undergraduate thesis.

## Related Degree Programs

### Agricultural Engineering

**Head:** Professor Ron Yoder, 223 Chase Hall

**Professors:** Edwards, Eisenhauer, Hanna, Hoy, Jones, Martin, Meyer, Schinstock, Schulte, Shelton, Smith, Weller, Yang

**Associate Professors:** Adamchuk, Bashford, Dvorak, Franti, Irmak, Kocher, Stowell, Woldt

**Assistant Professors:** Depak, Istanbulluoglu, Othman, Pannier, Subbiah, van Donk

The agricultural engineering degree program is offered through the College of Engineering. Refer to "Requirements for the Degree of Bachelor of Science in Agricultural Engineering (Lincoln campus)" on page 297.

## Biological Systems Engineering

**Head:** Professor Ron Yoder, 223 Chase Hall

**Professors:** Edwards, Eisenhauer, Hanna, Hoy, Jones, Martin, Meyer, Schinstock, Schulte, Shelton, Smith, Weller, Yang

**Associate Professors:** Adamchuk, Bashford, Dvorak, Franti, Irmak, Kocher, Stowell, Woldt

**Assistant Professors:** Depak, Istanbulluoglu, Othman, Pannier, Subbiah, van Donk

The biological systems engineering degree is offered through the College of Engineering. Refer to "Requirements for the Degree of Bachelor of Science in Biological Systems Engineering (Lincoln campus)" on page 295.

## Landscape Architecture

The Landscape Architecture (LARC) professional degree program is a joint program offered by the College of Agricultural Sciences and Natural Resources and the College of Architecture. Courses in the five-year bachelor of landscape architecture degree program will be taught in the College of Architecture's programs in architecture and community and regional planning, and the College of Agricultural Sciences and Natural Resources' Department of Agronomy and Horticulture. The program is administered by the College of Architecture. This collaborative program provides students a broad education through exposure to faculty of the many disciplines that impact their field while at the same time establishing a strong design studio core as an integrative environment. See the College of Architecture on page 109.

## Other Academic Programs

### Professional Program in Veterinary Medicine (VMED)

The University of Nebraska-Lincoln College of Agricultural Sciences and Natural Resources is home to Nebraska's component of the Professional Program in Veterinary Medicine with Iowa State University (ISU). Students in this program begin their professional education on the UNL campus and will earn the four-year doctor of veterinary medicine degree after continued study at ISU, College of Veterinary Medicine. The arrangement maintains tuition at the rate of ISU's in-state professional tuition rate all four years.

This innovative program, whose inaugural class of 25 Nebraska residents entered the fall semester of 2007, is the first of its kind in the United States. Program planning and development was undertaken jointly by the University of Nebraska, as well as Iowa State University, and has been reviewed and accredited by the American Veterinary Medical Association's Council on Education. This approval insures

that successful students in this program will meet requirements to take the North American Veterinary Licensure Exam (NAVLE) and subsequently attain licensure to practice veterinary medicine.

Every professional veterinary program must provide a core curriculum, and the unique opportunities provided by this ISU/UNL program allow students to have more hands-on experience and a broader range of opportunities than some of their counterparts. Faculty at UNL are devoted to student learning and provide a strong basic science curriculum as the foundation for their veterinary students. While UNL's departments of veterinary and biomedical sciences, animal science and entomology form the core of this program, individuals and resources throughout UNL contribute to student success. The Cooperative Program in Veterinary Medicine offers updated facilities, state-of-the-art teaching resources, and convenient access to the C. Y. Thompson Library. Opportunities for enhanced learning through participation in animal health activities during the first two years of the students' professional education can be provided at other UNL facilities, such as the Great Plains Veterinary Educational Center (GPVEC) at Clay Center, Nebraska, and the Agricultural Research and Development Center (ARDC) at Mead, Nebraska.

For more information about this program and admission requirements, please refer to <http://vetmed.unl.edu> or call 402-472-2952.

## Doctor of Plant Health

The Doctor of Plant Health curriculum is broad based, with significant core requirements in all areas of plant science:

- agronomy
- entomology
- horticulture
- plant pathology
- soil science
- weed science

Visit [www.dph.unl.edu](http://www.dph.unl.edu) for curriculum details.

## Statistics

**Head:** Professor Walter Stroup, 340 Hardin Hall

**Professors:** Eskridge, Kachman, Ladunga, Marx, McCutcheon, Parkhurst, Stroup

**Associate Professors:** Blankenship, Bilder, Zhang

**Assistant Professors:** Hanford, Roy, Soulakova, Wang

Statistics is the science of data collection, classification, analysis and interpretation. It has evolved into a core discipline for a well-rounded liberal arts education, and is of central importance to nearly all of the biological, physical and social sciences. The Department of Statistics offers introductory courses to acquaint students from all disciplines with the essential elements of statistical thinking. STAT 218 can be taken to satisfy the ES requirement in mathematics and statistics.

The department also offers a minor in statistics. The minor is a useful complement for many students. In addition, the minor provides background beneficial for graduate study in statistics. Career

opportunities for statisticians with masters and doctoral degrees abound in industry, government and education. Employers include pharmaceutical, health and medical organizations, quality improvement in manufacturing and service, marketing and opinion research, credit and security risk analysis, agribusiness, various governmental agencies including Environmental Protection, Food and Drug Administration, Departments of Census, Energy, Agriculture, and Homeland Security, and emerging fields ranging from bioinformatics to statistical applications in sports.

### Requirements for the Minor in Statistics

STAT 462 and 463 and at least 12 hours from the following: STAT 380, 412, 414, 450, 494, or 496. Alternative classes may be substituted if approved by the Department of Statistics curriculum committee.

Classes taken for a minor in statistics may not be taken Pass/No Pass. If a student receives a grade lower than a "C" in a course, the course may not be used to satisfy the statistics minor requirement.

**Graduate Work.** The following advanced degrees are offered: master of science and doctor of philosophy in statistics. For details, see the Graduate Bulletin.

### Courses of Instruction (STAT)

(ACE 3) [ES][IS] 218. **Introduction to Statistics** (3 cr) Lec 3. Prereq: Removal of all entrance deficiencies in mathematics. Credit toward the degree may be earned in only one of: CRIM 300 or ECON 215 or EDPS 459 or SOCI 206.

The practical application of statistical thinking to contemporary issues; collection and organization of data; probability distributions; statistical inference; estimation; and hypothesis testing.

318. **Introduction to Statistics II** (3 cr) Lec 3. Prereq: STAT 218 or equivalent.

Tests for means/proportions of two independent groups, analysis of variance for completely randomized design, contingency table analysis, correlation, single and multiple linear regression, nonparametric procedures, design of experiments.

(ACE 3) 380. **Statistics and Applications** (MATH 380) (3 cr) Prereq: MATH 107 or 107H. Credit toward the degree cannot be earned in STAT 218 if taken after or taken in parallel with STAT/MATH 380.

Probability calculus; random variables, their probability distributions and expected values; *t*, *F* and chi-square sampling distributions; estimation; testing of hypothesis; and regression analysis with applications.

412. **Introduction to Experimental Design** (3 cr) Prereq: STAT 380.

Survey of elementary experimental designs and their analyses completely randomized, randomized block, factorial, and split-plot designs.

414. **Introduction to Survey Sampling** (3 cr) Prereq: STAT/MATH 380 or IMSE 321 or permission.

Sampling Techniques: simple random sampling, sampling proportions, estimation of sample size, stratified random sampling, ratio and regression estimates.

430/830. **Sensory Evaluation** (FDST 430/830) (3 cr I) Lec 2, lab 3. Prereq: Introductory course in statistics. Offered fall semester of odd-numbered calendar years

For course description, see FDST 430/830.

432. **Introduction to Spatial Statistics** (3 cr) Lec, lab. Prereq: STAT 218 or equivalent.

Spatial point patterns, test of randomness, Morans I statistic and similar measures, checking assumptions for independence of observations, variography, estimation (point and global), Kriging, nearest neighbor techniques, cokriging, mixed models and their role in designed spatial experiments.

450. **Introduction to Regression Analysis** (3 cr) Prereq: STAT/MATH 380 or IMSE 321, and knowledge of matrix algebra. General linear models for estimation and testing problems, analysis and interpretation for various experimental designs.

462. **Introduction to Mathematical Statistics I: Distribution Theory** (3 cr) Prereq: MATH 208 or 107H. STAT 380 or equivalent is strongly recommended.

Sample space, random variable, expectation, conditional probability and independence, moment generating function, special distributions, sampling distributions, order statistics, limiting distributions, and central limit theorem.

463. **Introduction to Mathematical Statistics II: Statistical Inference** (3 cr) Prereq: STAT 462.

Interval estimation; point estimation, sufficiency, and completeness; Bayesian procedures; uniformly most powerful tests, sequential probability ratio test, likelihood ratio test, goodness of fit tests; elements of analysis of variance and nonparametric tests.

494. **Topics in Statistics and Probability** (1-5 cr, max 24) Prereq: Permission. Special topics in either statistics or the theory of probability.

496. **Independent Study** (1-5 cr, max 5) Prereq: Prior arrangement with a faculty member and submission of proposed study plan to department office.

801. **Statistical Methods in Research** (4 cr I, II) Lec 3, lab 2. Prereq: Introductory course in statistics.

802. **Experimental Design** (4 cr I, II) Lec 3, lab 2. Prereq: STAT 801.

804. **Survey Sampling** (3 cr) Prereq: STAT 880 or IMSE 321 or permission.

831. **Spatial Statistics** (3 cr) Prereq: MATH 821 and 822.

841. **Statistical Methods for Microarray and Related Technologies** (3 cr) Prereq: STAT 801 or equivalent.

842. **Computational Molecular Biology** (3 cr) Prereq: A course in biological science, genetics or biochemistry recommended.

870. **Multiple Regression Analysis** (3 cr) Prereq: STAT 801, 802.

873. **Applied Multivariate Statistical Analysis** (3 cr I) Lec 3. Prereq: STAT 801 or equivalent.

874. **Nonparametric Statistics** (3 cr) Prereq: STAT 801 or 880.

875. **Categorical Data Analysis** (3 cr) Prereq: STAT 801 and either STAT 802 or 870 recommended or with consent of instructor.

880. **Introduction to Mathematical Statistics** (3 cr) Prereq: MATH 208 or 107H and STAT 218 or equivalent or permission of instructor. STAT 880 is not open to MA or MS students in MATH or STAT.

882. **Mathematical Statistics I: Distribution Theory** (3 cr) Prereq: MATH 208 or 107H; STAT 380 or equivalent is strongly recommended.

883. **Mathematical Statistics II: Statistical Inference** (3 cr) Prereq: STAT 882.

884. **Applied Stochastic Models** (3 cr) Prereq: STAT/MATH 380 or IMSE 321 or equivalent.

889. **Statistics Seminar** (1 cr) Prereq: Permission.

892. **Topics in Statistics and Probability** (1-5 cr, max 24) Prereq: Permission.

898. **Statistics Project** (1-5 cr) Prereq: Permission.

899. **Masters Thesis** (1-6 cr) Prereq: Permission.

Refer to the Graduate Bulletin for 900-level courses.



# College of Architecture

**R. Wayne Drummond**, F.A.I.A., Dean and Professor of Architecture

**Mark A. Hoistad**, A.I.A., Associate Dean and Professor of Architecture and Landscape Architecture

**Katherine S. Ankerson**, M.S., Associate Dean and Professor of Interior Design

## About the College

The College of Architecture is the visible manifestation of an architectural tradition that has served Nebraska for a hundred years. The College's programs in architecture, interior design, landscape architecture, and community and regional planning have a proud tradition of excellence in education, research, and service to the State of Nebraska and the nation.

Architecture Hall, the symbolic and sentimental home of architecture at the University of Nebraska–Lincoln, stands as a monument not only to an historic style of architecture, but also to the progress of a University and the thousands of students who ascended the famous wooden staircase into design studios. A student of 1894 would feel at home today in Architecture Hall, its exterior facade and basic layout little changed from its earliest days as a proud new library building. Only the nature of the architectural programs within has changed with time. There has been a long, steady progression toward excellence in architectural education and development of programs appropriate to the needs of society.

Today, the College of Architecture is a busy and exciting place. Some 600 students are enrolled in classes, learning with a faculty of 30 to explore the past, present, and future of our communities. From gallery displays and provocative seminars, to the quiet of the Architecture Library, the bustle of

the design studio, and the excitement of a community town hall meeting, the College of Architecture is at work. It is the epitome of our land-grant university commitment to education, research, and service in the State of Nebraska and the Great Plains Region.

Nebraska has only one College of Architecture. Its services are unique to this state and to several other states in this region that lack adequate courses of study and services. Lewis Mumford once noted that the quality of a society is marked by the nature of its cities. Nebraska is proud of its "good life" and a great measure of that goodness is reflected in its architecture. A quick look at the documents and pamphlets used to describe this state, and at the photographs visitors take away, reveal content richly endowed in pleasing architecture, efficient community design, and attractive park systems.

The College of Architecture, through its programs in architecture, interior design, landscape architecture, and community and regional planning, offers a broad educational and research base for the study of the directions of a changing world. Even though the architecture and related programs address the classical heritage of our culture, they must also deal with the problem of tomorrow as it begins to emerge. Students and faculty of the College of Architecture seek the best of the past to carry through today into the uncertainty of tomorrow. This is the challenge for education.

Architects, interior designers, landscape architects, and planners are professionals with responsibilities to help communities anticipate and deal with change, thus ensuring that desirable change is achieved. Students today strive to identify and design preferred futures, rather than react to probable events. Education at the College of Architecture is characterized by a quest for the means of improving the quality of life for all people through

exploration into sustainable and restorative environments that contribute to the public health—striking a balance between civilization and nature.

Students pursue studies on an interdisciplinary basis through the professional staff within the College and also through organized, coordinated study programs involving professional, scientific, and academic staff from many departments within the University.

The College pursues a balanced agenda of traditional research and creative activity. These activities include the generation of new knowledge and the application of concepts and quantitative methods from the behavioral and social sciences to the current practical problems of communities, case studies exploring issues of sustainability and current practice, and creative activity exploring possibilities in the built and un-built environment. Funded projects sponsored by local, state and federal governments, as well as segments of the design and construction industries, provide students, especially in the advanced professional programs, with opportunities for practical laboratory experiences. The same community, design, planning, and research projects provide faculty with opportunities for continuing professional development.

The College is co-participant in the administration of the nationally recognized Nebraska Community Improvement Program (NCIP). The NCIP is a community recognition program involving some 200 Nebraska communities and neighborhoods each year. The College provides educational programs, technical assistance, and assists communities in identifying their needs, developing strategies, and carrying out community economic development. Through this program, University faculty have had opportunities to work with hundreds of Nebraska communities in assisting them in solving problems.

The College of Architecture's interdependent programs of education, research, and public service are intensive, relevant, dynamic, and rewarding. The College is dedicated to the continued development and improvement of programs that enhance the ability of the architect, the interior designer, and the planner to create a better world environment.

## Organization and Degrees

The College of Architecture consists of four academic programs: architecture, interior design, landscape architecture, and community and regional planning. Architecture, interior design, and landscape architecture all have a two year pre-professional program followed by professional degree programs. In architecture, it is a four year program in which students get a bachelor of science in design (BSD) degree and the professional master of architecture (MArch) degree. The landscape architecture program is three years in which students receive a BSD followed by the professional bachelor of landscape architecture (BLA) degree. The interior design program is two years and culminates in the professional BSD degree. The Community and Regional Planning Program is exclusively a graduate degree program.

Both architecture and interior design have post professional MS research degrees and architecture has a PhD degree program with the College of Education and Human Sciences.

### Architecture

Architecture is a six year course of study divided into three, two-year segments. Students choosing to study architecture first enter the College as majors in pre-architecture. After completing a two-year curriculum in pre-architecture, students apply for admission into the Architecture Program's professional program. The Professional Program in Architecture consists of two components: the two-year **bachelor of science in design** (BSD-Architecture) and the subsequent two-year **master of architecture** (MArch).

Students are required to apply for admission into the MArch program after completion of the BSD degree.

In the United States, most state registration boards require a degree from an accredited professional degree program as a prerequisite for licensure. The National Architectural Accreditation Board (NAAB), which is the sole agency authorized to accredit US professional degree programs in architecture, recognizes three types of degrees: the bachelor of architecture, the master of architecture and the doctor of architecture. A program may be granted a 6-year, 3-year, or 2-year term of accreditation, depending on the extent of its conformance with established educational standards.

Masters degree programs may consist of a pre-professional undergraduate degree and a professional graduate degree, that, when earned sequentially, constitute an accredited professional education. However, the pre-professional degree is not, by itself, recognized as an accredited degree.

**The bachelor of science in design is a para-professional degree and a necessary component of the professional program which culminates with the master of architecture degree. The master of architecture degree is the first professional degree.** The professional master of architecture degree is fully accredited by the National Architectural Accreditation Board (NAAB).

In addition to the normal two-year professional program, **applicants with degrees from other fields may be eligible to enter the three year master of architecture program with deficiencies.** These deficiencies are evaluated by the program director on an individual basis after admission resulting from a review of the applicant's transcripts and other pertinent professionally-related materials by the Student Affairs Committee. Students in this three year program are required to complete 27 to 50 hours of selected undergraduate courses (a minimum of one additional year) prior to pursuing the professional program. Applicants with deficiencies exceeding 50 credit hours are not admitted.

For those who would like to pursue scholarship in architecture, the Architecture Program also offers a 36 credit hour, scholarly-nonprofessional **master of science in architecture degree for students with a bachelors degree in architecture or a related discipline.** In addition, students can gain the **doctor of education in administration, curriculum and instruction in architectural education or doctor of philosophy** degree in a doctoral area of specialization, entitled Architecture Education, which is jointly sponsored by the College of Architecture and College of Education and Human Sciences. The program is designed for students interested in going beyond the professional degree in architecture to become architectural educators. The major purpose of the program is to provide academic preparation and professional development for those individuals who will serve as: a) faculty members in programs of architecture in public and private post-secondary educational institutions; and as b) administrative leaders of architecture programs in higher education.

### Interior Design

The College of Architecture also administers the Interior Design Program. The four-year Interior Design Program consists of a two-year Pre-Interior Design Program and a subsequent two-year **bachelor of science in design** (BSD-Interior Design) major. After completing a two-year curriculum in pre-interior design, students apply for admission into the College of Architecture's Interior Design Program. This Interior Design Program is fully accredited by the Council Interior Design Accreditation (CIDA). The Interior Design Program also offers a postprofessional MS degree through the Graduate College and through Distance Education.

### Landscape Architecture

The Landscape Architecture Program is a five-year course of study that has been subdivided into a two-year pre-professional, two-year para-professional, and a one-year professional degree unit.

Students receive a bachelor of science in design (BSD) at the end of the two two-year segments and a professional bachelor of landscape architecture (BLA) at the end of the fifth year. At the end of the first two year pre-professional segment, students are required to apply for admission into the professional segment of the curriculum. This review involves an evaluation of the students academic record and a portfolio of their work during the preprofessional studies. The Landscape Architecture Program is a candidate program for accreditation. It is anticipated it will be granted for all students as soon as it is allowed under the rules of accreditation defined by the Landscape Architectural Accreditation Board (LAAB).

### Community and Regional Planning

The Community and Regional Planning Program offers the two-year professional **master of community and regional planning** degree which is fully accredited by the Planning Accreditation Board (PAB).

### UNO

The College of Architecture at the University of Nebraska-Lincoln offers Pre-Architecture and Pre-Interior Design Programs as well as courses in the graduate Community and Regional Planning Program at the University of Nebraska at Omaha. Students interested in a comprehensive description of the College's programs on the Omaha campus should refer to the undergraduate and graduate bulletins of the University of Nebraska at Omaha.

For additional information or admissions questions please contact the Omaha Program Director.

### Facilities

The College is headquartered in Architecture Hall. All facilities of this unique and historic complex are located within the southwest quadrant of the campus, with convenient access to the Lincoln central business district. College lecture classrooms; design and planning studios; computer, media, and shop facilities; the professional library; exhibit spaces; and other ancillary facilities are arranged and equipped for student convenience.

**Architecture Library.** Located in Architecture Hall and operated as a branch facility of the University Libraries, the Architecture Library maintains collections pertinent to the fields of architecture, planning, urban design, interior design, landscape architecture, community development, and building technology. In addition to a collection of approximately 51,500 volumes, the library receives 200 national and international magazines and journals in its subject areas, and has a digital image collection of 150,000. Available construction documents, indexes, and other materials provide technical reference resources to both the student and the practicing professional.

**Information Technology Facilities.** Information technology facilities in the College of Architecture are available for teaching, research and public

service activities, and are used by students and faculty of all programs in the College. University facilities include a teaching lab, student authoring area and printing facilities.

Students admitted to the Pre-Architecture, Pre-Landscape Architecture, and Pre-Interior Design Programs are required to lease, purchase or have ready access to a laptop computer meeting the specification defined by the Architecture, Interior Design, and Landscape Architecture Programs. Digital technology is an integral part of studies in the design professions making this requirement essential. All studio spaces are hardwired with fiber optic cable to the College and University servers. In addition, all space in the College is served with wireless network capability.

Several computer applications software packages are supported by the College. The applications include CAD, solid modeling, animation, image processing, multi-media applications, digital fabrication, data base management, mapping and cartographic applications, geographic information systems, and specialized planning applications, heat gain, etc. Several symbol libraries and US Census data are available to student users on CD ROMS.

**Architecture Gallery.** A vital part of architecture is communication to the public. An architectural educational institution is in an excellent position to communicate (through exhibits and shows) the purpose and services of the environmental design professions. To this end seminars and displays of general interest to the public are featured in the gallery area of Architecture Hall. The gallery also provides a space for formal and informal student, faculty, and public programs.

## Centers, Institutes and Special Programs

### Hyde Program of Visiting Professionals

This memorial program was established in 1979 in grateful recognition of Mr. A. Leicester Hyde, AIA, 1902-1976. He graduated from the University of Nebraska in architectural engineering in 1925 and Columbia University in 1928. From 1960 to 1972 he was president and chair of the board of Midwest Life Nebraska. Mr. Hyde served as a charter member of the College's professional advisory council.

This annual program brings architecture, planning and interior design students into direct contact with nationally and internationally known professionals who are acknowledged to be at the leading edge of their fields. Visitors and guest critics coming to campus are involved in public presentations and work with the students and faculty of the College in the classroom and studio. The program also provides advanced students with the opportunity to engage in intensive off-campus design charrettes within the offices of leading professional firms.

**Hyde Chair of Excellence.** Established in 1986, the Hyde Chair of Excellence allows the College of Architecture to attract visiting faculty of national and international distinction. Through this

endowment, renowned scholars and practitioners are invited to spend a semester or more in residence at the College, working with and teaching architecture, interior design, and planning students in studios, in seminars, and in an informal mentor role as well.

The Hyde Chair of Excellence was made possible by the generosity of Mrs. Flora Hyde in honor of the memory of her late husband, A. Leicester Hyde. Recipients have included Joseph Esherick, Peter Cook, Christine Hawley, Wolff Prix, Ralph Rapson, Tobias Faber, David Lewis, Tsukasa Yamashita, Ken DeMay, Larry Young, Rick Lamb, Tom Wang, Charles Redmon, Terry Rankine, Robert Evans, Robert Barbach, Bruce Graham, Ivor Richards, David Gosling, Michael Sorkin, Philip Thiel, Anthony Ames, Alan H. Colquhoun, William Turnbull, Shirley Blumberg, John Forester, James Richardson, Bruce Stiftel, Lawrence Susskind, Jim Jennings, Roger Schluntz, Mark Mack, Jane Malkin, Susan Sanders, Javier Navarro, Robert Bullard, Teresa Cordova, Kenneth Reardon, Ron Shiffman, Dan Pitera, William Carpenter, Hank Hildebrandt, Jeff Day, Diane Lewis, Randy Brown, Julian Bonder, Martin Hogue, Johan Granberg, Paul Preissner, Doug Jackson, and Chris Abel.

### Friends Association

The University of Nebraska's College of Architecture Friends Association was originally founded in 1982 as the College of Architecture Alumni Association. In 2004, the group changed its name to the College of Architecture Friends Association to broaden participation and address separation from the University Alumni Association. The Association encourages activities that help recognize the importance of the professions of architecture and planning, and allied disciplines, and to recognize persons and organizations providing meritorious service in these professions.

The Friends Association seeks to promote and support the mission and programs of the University of Nebraska's College of Architecture by encouraging the establishment of scholarships, fellowships, and financial resources; promoting communication among members; promoting events and activities for alumni; and promoting continuing education for alumni.

All graduates of the College of Architecture, its predecessor organizations, and those interested in supporting the College are eligible for membership.

### Professional Advisory Council

A Professional Advisory Council composed of persons prominent in fields of business and practice allied to architecture, community development, and education provides valuable assistance to the College. It is advisory to the faculty and the Dean on affairs of interest to the College and acts as a resource to the Dean in planning and implementing resource development programs. Members of the Professional Advisory Council are listed below:

**Frederick S. Bucholz**, CEO; Plastilite Corporation, Omaha, Nebraska

**John Cameron**, AIA; HDR Architecture Inc., Omaha, Nebraska

**James Caruso**, AICP; Lincoln, Nebraska

**Thomas Cech**, Water Conservancy District, Greeley, Colorado

**Thomas Chastain**, AIA; Principal, Studio Urbis, Berkeley, California

**David Ciaccio**, ASLA; Olsson Associates, Omaha, Nebraska

**Chris Coonan**, Vice President of Design, RED Development, Scottsdale, Arizona

**Rick Cunningham**, R.A., F.SAME; Senior Vice President, National Strategic Sales Manager, PB, Hendon, Virginia

**Robert Douglass**, FAIA; Georgetown, Texas

**Keith Dubas**, AIA; Consultant, Lincoln, Nebraska

**Thomas L. Findley**, AIA; Vice President, Leo A Daly Company, Omaha, Nebraska

**Neil P. Frankel**, AIA/FIIDA; Frankel + Coleman; Chicago, Illinois

**George Haecker**, AIA; Principal, Bahr Vermeer & Haecker Architects, Omaha, Nebraska

**James A. Hedgpeth, Jr.**, AIA; Leo A. Daly Company, Omaha, Nebraska

**David Howlett**, Price Howlett, Inc., Denver, Colorado

**Timothy Keelan**, Principal, Hanna Keelan Associates, Lincoln, Nebraska

**Scott Killinger**, AIA; Kuang Xing Design, Beijing, Flourtown, Pennsylvania

**JoAnne D. Kissel**, Planner, Clark Enersen Partners, Inc., Lincoln, Nebraska

**Gerold Klein**, AIA, ASLA; Principal, DLR Group, Omaha, Nebraska

**Edward Kodet, Jr.**, AIA; Kodet Architectural Group, Ltd., Minneapolis, Minnesota

**Kim Larsen**, AIA; RSP Architects, Minneapolis, Minnesota

**Eva L. Maddox**, Principal, Perkins & Will/Eva Maddox Branded Environments, Chicago, Illinois

**Robert Muetting**, AIA, ASLA; Principal, RJM Design Group, Inc., Capistrano, California

**Chad Novak**, AIA; Partner, H & L Architecture, Denver, Colorado

**Michael E. Ossian**, AIA; H+L Architecture, Ltd., Denver, Colorado

**Valdis Ronis**, AIA, NCARB; Principal, MULVAN NY G2, McLean, Virginia

**John Royster**, ASLA; Big Muddy Workshop, Omaha, Nebraska

**Jack Savage**, AIA; Emeritus, Tekamah, Nebraska

**Roger Schluntz**, AIA; Dean, College of Architecture, University of New Mexico

**Frederick J. Schmidt**, AIA; IIDA; Managing Principal, The Environments Group, Chicago, Illinois

**Kent Seacrest**, Attorney, Seacrest & Kalkowski, Lincoln, Nebraska

**Jeff Shneider**, AIA; CSHQA Architects/Engineers/Planners, Boise, Idaho

**Nancy Stark**, Architect, Capitol Architecture and Planning Board, St. Paul, Minnesota

**A. P. Victors**, Victors & Associates, Portola Valley, California

**Janet Rothberg White, FAIA;** Bethesda, Maryland  
**Bill Wilson;** Wilson Advocacy and Consulting, Kingwood, Texas  
**Robin L. Wilson,** ASID; Lincoln, Nebraska

## College Scholarships and Awards

Financial assistance in several forms is available to students admitted to the College of Architecture. Available funds will vary over time. Interested students are invited to inquire in the Dean's Office regarding opportunities for loans, employment, and scholarships.

### Scholarships

**AIA Nebraska Society Scholarships.** Four scholarships to recognize architectural excellence of University of Nebraska–Lincoln, College of Architecture students.

- **Architectural Excellence.** Presented to a 3rd-year student. GPA and portfolio would be the basis of selection. Student must be a graduate of a Nebraska High School and currently enrolled in the bachelor of science in architecture studies at the University of Nebraska–Lincoln.
- **Architectural Excellence.** Presented to a masters degree student. GPA and portfolio would be the basis of selection. Student must be a graduate or enrolled in the masters program for architecture at the UNL College of Architecture.
- **Cultural Exploration.** Presented to a 4th-year student. Funds would be used for foreign travel that include an architectural course of self-directed study. Study could be used for preliminary study for a masters design project. Student must be a graduate of a Nebraska High School. The recipient would be expected to present a report to the AIA Nebraska members, upon completion of the exploration process.
- **Minority/Diversity.** Presented to a 3rd-year student qualified based on his/her minority/diversity status. GPA and portfolio would be the basis of selection.

**AIA Nebraska W. Cecil Steward, FAIA–Architectural Excellence Scholarship.** Presented to a 5th year masters degree student with at least one semester remaining. GPA and portfolio would be the basis of selection. Application should be made prior to commencement of the terminal project.

**AIA/AAF Foundation Scholarships.** Awarded annually to students enrolled in the master of architecture program in cooperation with the American Institute of Architects' national scholarship program.

**Architectural Foundation of Nebraska Scholarship.** Awarded to high school students participating in the College of Architecture's "Exploring a Career in Architecture" program. Recipients must enroll in the College of Architecture at UNL.

**Architecture Program Faculty Scholarship.** Awarded annually to students entering or enrolled in the Architecture Program by the faculty.

**Alley Poyner Architecture Student Excellence Fund.** Awarded to students in either an undergraduate or graduate architecture program, must hold junior standing or above, GPA of 3.0, and show financial need.

**ASID Nebraska/Iowa Interior Design Scholarship.** Awarded to an interior design student in the 3rd year of the professional program. The award is based on studio work and potential for success in the profession.

**Bahr Vermeer Haecker Historic Preservation Fund.** A scholarship for students interested in historic preservation within each of our programs, 3rd year or above with a GPA of 3.0 or above.

**Charles A. Wilscam Jr.** Awarded to graduate or doctoral students with a GPA of 3.0.

**Clark Enersen Partners Student Travel Scholarship Fund.** Awarded to full-time undergraduate and/or graduate students pursuing their education through a study program nationally or internationally, junior class standing, GPA of 3.0 or above.

**College of Architecture Alumni Association Scholarship.** Awarded annually to entering freshmen in the Pre-Architecture Program. Awards are based on outstanding high school academic performance, the potential for success in architectural studies, and financial need.

**College of Architecture Student Support Fund.** This scholarship is to benefit and support students within the College of Architecture by alumni supporting the College.

**Professor Dale Gibbs Honor Scholarship.** Enhances current efforts to recruit and retain outstanding young scholars in coordination with the University Honors Program.

**Dana & DLR Scholars Fund.** This fellowship is for students having professional program, graduate or professional fellows standing in architecture, interior design, and community and regional planning, GPA of 3.5 or above.

**Darrell D. Rippeteau Scholarship for Architecture and Business Management.** Awarded to students who have matriculated in the professional program of architecture. It is the desire of Mr. Rippeteau, a 1941 graduate, to encourage and enhance the College's attention to the principles and methods of business as an essential ingredient in the practice of the profession.

**David A. Irvin Student Scholarship Fund.** Incoming freshman students who have demonstrated academic excellence and majoring in architecture and/or interior design at UNL or UNO.

**Douglas J. Thom Memorial Scholarship.** Awarded to architecture students enrolled in the College who are making satisfactory progress towards a degree and who demonstrate financial need.

**Gary Lee Hansen Recognition Award.** Awarded to students entering the Professional Program in Architecture who have demonstrated exceptional promise for a successful career in architecture.

**Gary Spring/HDR Scholarship Endowment.** For master of architecture students.

**George E. Clayton Scholarship Fund in Architecture.** Awarded annually to enrolled students in the College of Architecture whose professional goals include the practice of architecture in small and rural communities. Recipients must have demonstrated a record of academic excellence, show strong professional potential, and be worthy of assistance.

**George Ralph Unthank, Jr. Memorial Scholarship.** Awarded to students enrolled in the Professional Program in Architecture who have proven their ability to do satisfactory college work, shown promise of success in their chosen field, and are worthy of financial assistance. Preference shall be given to persons who graduated from a Nebraska high school.

**H. F. Cunningham Scholarship Fund for Excellence.** Incoming freshman students who have demonstrated academic excellence and qualify as an honor student.

**Hemphill Memorial Scholarship Fund.** Awarded to students entering the master of architecture program who have demonstrated strong interest and a record of scholastic achievement in the study of the humanities.

**Herold W. Seng Memorial Scholarship in Architecture.** Available annually to male students enrolled in the Architecture Program who require financial assistance to complete their studies in architecture.

**H+L Architect Scholarship.** Supports students going into the sixth year. Also has an internship opportunity.

**J. A. Shneider Fund.** Awarded to enrolled students in the College of Architecture pursuing their masters degree in architecture. Preference shall be given to non-traditional students.

**James A. Murphy Memorial Scholarship.** Made available to College of Architecture students interested in writing and/or literature. Preference shall be given to candidates who assist with the publication of the College's newsletter or other printed materials.

**James Hassler Scholarship Fund.** Awarded to upper division or graduate students within the College of Architecture who have expressed an interest in community development with a GPA of 3.0 or above.

**Joseph D. Vaccaro Scholarship Fund.** Awarded to undergraduate students majoring in architecture at UNL or UNO, freshman class standing or above, GPA 3.0 or above, and financial need. Needs to be a Nebraska high school graduate.

**Leo A. Daly Architectural Traveling Scholarship.** Provides students the opportunity to broaden their architectural horizons by international travel and study. Selection is based on past academic accomplishments and proposed travel objectives.

**Mary E. Roelfs Scholarship.** Awarded to full-time undergraduate students in the Architecture Program.

**Nebraska Concrete Aggregate Association Architectural Scholarship.** Awarded annually to 4th year students in the BSD program.

**Nebraska Concrete Masonry Association Architectural Scholarship.** Awarded annually to 4th year students in the BSD program.

**Robert Davis Hayes Student Travel Fund.** Supports students in the London Program.

**Roger L. Schutte Student Excellence Fund.** Presented to one or more graduate or doctoral students in the College of Architecture with a GPA of 3.0 or above.

**Ron and Judy Hess London Program Endowment.** Benefits and supports the London program (faculty, students, supplies and equipment).

**The Schemmer Associates Architectural Scholarship Fund.** Architecture students going into their 4th or 5th year, GPA of 3.2 or above, a graduate of a Nebraska high school, and who demonstrate financial need.

**Sinclair Hille Architects Scholarship Fund.** Scholarships for candidates in 3rd year who have an interest in landscape architecture.

## Awards

**Alpha Rho Chi Medal.** Awarded to a member of the master of architecture graduating class who excels in leadership.

**American Institute of Certified Planners Planning Student Award.** Presented to a graduating student in the master of community and regional planning degree program. The award recognizes outstanding attainment in the study of planning. The recipient is chosen by the faculty of the Community and Regional Planning Program, based upon academic grade point average and general faculty evaluation of the student's academic achievement.

**College of Architecture Alumni Association Outstanding Students Award.** Awarded annually to graduating students in the BSD, MArch, and MCRP programs. Students are selected on the basis of scholastic achievement and personal development.

**Faculty Achievement Awards.** Granted each year to graduating seniors in the BSD program for scholastic achievement and progress.

**Harry F. Cunningham Bronze Medal.** AIA Nebraska and the College of Architecture award the Bronze Medal for excellence in academic and

design achievement. The medal was established to commemorate Harry F. Cunningham, a Fellow of the American Institute of Architects. Harry Cunningham oversaw the completion of the Nebraska State Capitol upon the death of Bertram Grosvenor Goodhue and established the School of Architecture at the University of Nebraska–Lincoln. The awarding of the medal is determined by a vote of the faculty and AIA-Nebraska after reviewing the master of architecture student's final projects.

**Henry Adams Medal of the American Institute of Architects.** Awarded to a graduating student from the professional program who has the best scholarship record in the study of architecture.

**Nebraska Chapter, American Planning Association, Student Award.** Presented annually to a person graduating from the master of community and regional planning program. This award recognizes outstanding academic performance and professional promise. Selection of the recipient by the faculty in the Community and Regional Planning Program is based upon academic grade point average, quality of the master's thesis, professional project, or comprehensive examination, and general evaluation of the student's academic abilities and professional promise.

**Nebraska Society, American Institute of Architects Award.** Granted each year to graduates from the professional program for meritorious achievement and professional promise.

**Negussie Negawo Memorial Award.** The Nebraska Chapter of the American Planning Association and the Community and Regional Planning Program present this award to a student in the master of community and regional planning degree program in recognition of special sensitivity and insight toward problems affecting minority or economically disadvantaged persons or persons in developing countries. The recipient is selected by the faculty in the Community and Regional Planning Program.

**Tau Sigma Delta Bronze Medal.** Presented annually by the University of Nebraska–Lincoln Psi Chapter of Tau Sigma Delta to a graduating student in the master of community and regional planning degree program. The Bronze Medal recognizes distinguished achievement in the study of community and regional planning. Tau Sigma Delta is a national honorary society for architecture and the allied arts. The recipient of the Bronze Medal is chosen following nominations by the departmental faculty, by vote of the faculty and the current planning student members of Tau Sigma Delta.

## Academic Advising

The College of Architecture is committed to providing effective advising services to students as an essential component of their educational experience.

Students in the Architecture, Interior Design, and Landscape Architecture Programs are assigned to a staff adviser. These advisers are

located in the Programs Office to afford students easy access to information and to the Program Directors should this be necessary or desirable. Students are also given access to an advisers Web site developed specifically for the College.

After admission into their respective professional program, students are assigned a faculty adviser. This person serves as an important resource for questions about the professions, their future careers, and their academic plans and progress. Students are encouraged to regularly consult with their adviser and are responsible for initiating advising contacts and preparing for advising sessions. Students must consult with their adviser prior to registering for classes. Failure to do so may result in removal from classes. Ultimately, students are themselves responsible for fulfilling all the requirements of the curriculum in which they are enrolled. The intellectual mentoring relationship between academic adviser and student is protected by confidentiality and strengthened by listening with understanding to student concerns.

The program office houses student records and the staff is helpful in checking on degree requirements and University procedures and policies.

The program office provides information for prospective and entering students who are seeking admission to the College of Architecture.

## Graduate and Professional Teaching and Research Assistantships

The College of Architecture has several teaching and research assistantships available each year. Students accepted into the master of architecture program, MS, and PhD/EdD programs or those who are in the process of making application for admission to the master of architecture program are encouraged to apply for these assistantships. A brief letter of interest and qualifications plus completed graduate assistantship recommendation forms (which are available in the Architecture Program Office) should be sent to the Architecture Program before March 1 of each year for consideration for the fall semester and November 1 for the spring semester.

## Dean's List

Each semester select undergraduate students enrolled in the College of Architecture are recognized for their scholastic accomplishments by being named to the Dean's List. Criteria for this honor are:

1. Students must earn a semester (not cumulative) GPA that ranks them in the upper ten percent of the College's enrollment.
2. Students must earn a minimum of 12 graded credit hours during that semester. (Pass/No Pass credit cannot be applied toward the 12 required credit hours.)

## Graduation With Distinction and With High Distinction

Students with outstanding scholastic records may earn the special honor of graduation *With Distinction* or *With High Distinction*. One student each graduation may be chosen to graduate *With Highest Distinction*. Requirements for these honors are listed below.

**Graduation With Distinction** shall be awarded to students earning at least 60 credit hours in residence at UNL who are in the 90th percentile of those graduating in the prior twelve month period or who have a minimum 3.6 cumulative GPA.

**Graduation With High Distinction** shall be awarded to students in the top half of those who meet the qualifications for graduation with distinction and have a minimum 3.8 cumulative GPA.

**Graduation With Highest Distinction** may be awarded by selection of the faculty to a student who meets the qualifications for graduation with high distinction and has also demonstrated outstanding professional excellence through creative work.

## Student Organizations

### Student Advisory Board

The Student Advisory Board consists of elected representatives from the following programs within the College of Architecture:

1. One student from each 2-year segment in the architecture option (1st & 2nd, 3rd & 4th, 5th & 6th),
  2. One student from each 2-year segment in the interior design option (1st & 2nd, 3rd & 4th)
  3. One student from the Community and Regional Planning Program.
  4. One student from the MS/PhD student population.
- Plus the following individuals:
- a. Tau Sigma Delta president (ex officio)
  - b. Alpha Rho Chi president (ex officio)
  - c. ASUN representative of the College (ex officio)
  - d. AIAS president (American Institute of Architects, Students) (ex officio)
  - e. SPAN president (Student Planning of Nebraska) (ex officio)
  - f. ASID president (American Society of Interior Design) (ex officio)
  - g. IIDA campus chapter (ex officio)
  - h. ASLA (American Society of Landscape Architects) (ex officio)
  - i. EGB (Emerging Green Builder) (ex officio)

The Student Advisory Board selects students to serve on College committees; meets regularly with the Dean to discuss areas of concern regarding the welfare of the College and the needs of the students; recommends to the faculty specific curriculum changes or new proposals; recommends to the Dean and to the College Council specific changes

in student affairs, facilities, or resource materials; and serves as a communication link between College committees and the student body.

### American Institute of Architecture Students

American Institute of Architecture Students (AIAS) is the official student body organization in the Department of Architecture.

As the liaison between the students and practicing professionals, the organization provides close contact with the American Institute of Architects and its members as well as student organizations from other universities. In addition, the AIAS represents the student body on various faculty committees, makes recommendations to the department, hosts visiting speakers, and organizes various social activities. All students in the department are encouraged to actively participate in this organization, hopefully joining during their freshman year.

### Tau Sigma Delta

Tau Sigma Delta is a national architectural and allied arts honorary society. The purpose of Tau Sigma Delta is to emphasize scholarship, leadership, and character; to stimulate mental achievement and effort; and to acknowledge those students who attain high scholastic standing in architecture and the allied arts of design by the reward of membership.

Membership in Tau Sigma Delta is by invitation only and is extended to undergraduate, professional and graduate students in the top 20 percent of their respective classes.

### Alpha Rho Chi

Alpha Rho Chi (APX) is the national coeducational professional fraternity for students of architecture and the allied arts. It is represented at the University of Nebraska by the Pytheos Chapter. The aim of Alpha Rho Chi is to unite students in fellowship in order to promote their artistic, scientific and practical proficiency. It serves as a catalyst toward achieving academic excellence and professional development within a framework of fraternal opportunities. It also participates in collegiate and community service projects which strive to improve the general welfare and environment of our society. Alpha Rho Chi offers a challenging, stimulating and rewarding academic and fraternal experience which helps prepare its individual members for responsible participation as leaders in their chosen professional and community life.

### American Society of Interior Design

Students in interior design are eligible for membership in the student chapter, American Society of Interior Design, and upon graduation may become allied members of ASID.

### International Interior Design Association

Students in interior design may become members of IIDA's Campus Center and participate in both student and professional IIDA activities.

### Student Planning Association of Nebraska

Membership in the Student Planning Association of Nebraska (SPAN) is open to students

enrolled in the master of community and regional planning degree program. Interested students from other disciplines are eligible to become associate members.

This organization serves an advocate/liaison function for MCRP students with faculty, practicing professional planners, and others outside the department. SPAN identifies and facilitates opportunities for the professional development of MCRP students and others interested in planning, as well as organizes social functions and a variety of educational experiences.

### American Society of Landscape Architects

Membership in the student chapter of the American Society of Landscape Architects (ASLA) is open to all students enrolled in the BLA program. The organization is to serve as a liaison with the professional organization, facilitate opportunities for professional development, organize social events, and provide input to the administration of the program.

### International Studies Programs

**China.** The College of Architecture has a formal agreement for an exchange of faculty and students with the Northwest Institute of Architectural Engineering at Xian, People's Republic of China. This exchange program was initiated in 1989.

**Dublin, Ireland.** During the fall semester, qualified students in the Department of Architecture can elect to study in Dublin, Ireland. Under an agreement with the Dublin Institute of Technology, students have an opportunity to complete one semester of their requirements toward a degree at UNL.

**Hannover, Germany.** During the spring semester, qualified students in the fourth or fifth year of the BSD program can elect to study in Hannover, Germany. Under an agreement with Hannover University, students have an opportunity to complete one semester of their requirements toward a degree at UNL.

**Clermont-Ferrand, France.** During the spring semester, qualified students in the fourth or fifth year of the BSD program can elect to study in Clermont-Ferrand, France. Under an agreement with the university, students have an opportunity to complete one semester of their requirements toward a degree at UNL.

**London, England.** During each spring semester, qualified students may elect one semester of resident studies in London, England. The program offers students enrolled in the architecture (5th or 6th years), interior design (4th year), or landscape architecture (4th year) programs the opportunity to study urban and architectural design in a cross-cultural and comparative manner. Under the direction of a faculty member in either the architecture, interior design, or landscape architecture programs, the program is annually accommodated by a wealth of historic and modern case materials with cooperative assistance from educators and practicing professionals in the London area. Stephan Rienke (AIA, RIBA) serves

as adjunct professor to the College and provides invaluable professional and cultural assistance to visiting UNL faculty and students.

**Tianjin, China.** During each fall semester, qualified students may elect a semester of resident studies in Tianjin, China. The program offers students enrolled in the architecture (5th or 6th year) or landscape architecture (5th year) the opportunity to study design in an urban environment with cross-cultural influences. Under the direction of a faculty member of either architecture or landscape architecture, the program offers students a rich experience. Working with the urban design and planning office of KX International Design and Planning.

**Monteverde, Costa Rica.** During the summer 3-week pre-session, the Community and Regional Planning Department offers a 3-credit advanced field studies course in Costa Rica, covering basic field techniques in environmental, social and economic aspects of sustainable community planning in developing regions and sensitive environments.

## Architecture Internship

An internship program is available to students who have completed the BSD or its equivalent before or during the 5th and 6th year of the Professional Program in Architecture. Academic credits will be given (up to 6 hours) for this internship experience. Students will be required to apply for acceptance into the program and will be monitored by the program's internship coordinator.

## Interior Design Internship

All students enrolled in the Interior Design Program need to complete an approved internship as part of their professional requirements. Students are not eligible for an internship until they are enrolled in, or have completed, IDES 351 Interior Design Studio 2.

## Planning Internship

The Community and Regional Planning Program recommends that students without previous work experience in planning complete a field internship as part of the MCRP program. The internship involves a training period of actual service in a public or private organization.

The field experience component of the MCRP program provides an excellent means for students to augment and expand their planning skills, to more closely examine their career aspirations, and to evaluate their academic progress. Internships provide students with unique learning experiences that are impossible to replicate in the classroom. Many internships provide financial assistance for students while they are in school and often facilitate their search for employment after graduation. The internship component of the MCRP program also is an important vehicle for fulfilling the public service mission of the Community and Regional Planning Program, the College of Architecture, and the University of Nebraska Lincoln.

## Admission to the College of Architecture

Admission to the University of Nebraska-Lincoln does not constitute admission to the College of Architecture. Students seeking enrollment in the College of Architecture should indicate their desire by marking the proper major code on the University application form.

**Freshmen students applying for admission to the Pre-Architecture and Pre-Landscape Architecture Program must submit complete admission application materials by March 15. Please note this is different from the standard university procedures.** Freshmen students applying for admission to the Pre-Interior Design Program must submit complete admission application materials by May 1 for fall admission and December 1 for spring admission. Transfer students must present materials by February 15. These admission procedures apply to high school students seeking admission, as well as transfer students, international students, and also those transferring from UNO and UNK to UNL.

## High School Standards Pre-Architecture Program

Prospective students interested in the Professional Program in Architecture are eligible to apply for admission into the pre-architecture major if their high school records meet the following standards:

1. Mathematics—4 units of Algebra I, II, geometry, and one additional unit that builds on a knowledge of algebra or pre-calculus.
2. English—4 units of intensive reading and writing.
3. Social Studies—3 units. At least one unit of American and/or world history and one additional unit of history, American government, and/or geography.
4. Natural Science—3 units. At least two of the three units selected from biology, chemistry, physics, and earth sciences. One of the units must include a laboratory.
5. Foreign Language—2 units.

## Deficiencies

Students who are admitted through the Admission by Review process with core course deficiencies will have certain conditions attached to their enrollment at UNL. These conditions are explained under "Removal of Deficiencies" on page 6 of this bulletin.

For University policy, see "Graduation Requirements" on page 16.

## High School Standards Pre-Interior Design Program

Prospective students interested in the Interior Design Program are eligible for admission to the pre-interior design major if their high school records meet the following standards:

1. Mathematics—4 units of Algebra I, II, geometry, and one additional unit that builds on a knowledge of algebra.
2. English—4 units of intensive reading and writing.
3. Social Studies—3 units. At least one unit of American and/or world history and one additional unit of history, American government, and/or geography.
4. Natural Science—3 units. At least two of the three units selected from biology, chemistry, physics, and earth sciences. One of the units must include a laboratory.
5. Foreign Language—2 units.

## Deficiencies

Each application that does not meet the requirements for Assured Admission will automatically receive individual review. The applicant's total academic record and performance will be taken into consideration. If admitted, all deficiencies will have to be made up within the first academic year and are governed by University policies for removal of deficiencies.

For University policy, see "Graduation Requirements" on page 16.

## High School Standards Pre-Landscape Architecture Program

Prospective students interested in the Professional Program in Landscape Architecture are eligible to apply for admission into the pre-architecture major if their high school records meet the following standards:

1. Mathematics—4 units of Algebra I, II, geometry, and one additional unit that builds on a knowledge of algebra or pre-calculus.
2. English—4 units of intensive reading and writing.
3. Social Studies—3 units. At least one unit of American and/or world history and one additional unit of history, American government, and/or geography.
4. Natural Science—3 units. At least one of these units must include chemistry with a lab. Two other units can be from biology, physics, and/or earth sciences.
5. Foreign Language—2 units.

## Deficiencies

Each application that does not meet the requirements for Assured Admission will automatically receive individual review. The applicant's total academic record and performance will be taken into consideration. If admitted, all deficiencies will have to be made up within the first academic year and are governed by University policies for removal of deficiencies.

For University policy, see "Graduation Requirements" on page 16.

## General Admission Requirements for the College of Architecture

In addition to the high school admission requirements, the College of Architecture has established the following general admission requirements for all undergraduate students.

### New freshman students must:

- Graduate in the upper quartile of their high school class, **or**
- Have an enhanced ACT composite score of 22, **or**
- Have a combined SAT verbal and math total of at least 1030 enhanced **or**
- Receive permission from the chair of the department with a waiver from the above requirements.

### New international freshman students must:

- Meet UNL entrance requirements for new international freshman students, **and**
- Have a MELAB score of at least 80 or a minimum TOEFL score of 550, or computer-based score of 213 or 79-80 Internet-based.

### New transfer students must:

- Have a minimum 3.0 cumulative GPA for architecture and landscape architecture or 3.0 for interior design and be in good scholastic standing.

**NOTE:** New transfer students must comply with new freshman student entrance requirements if they have completed less than 12 credit hours of college study.

### New international transfer students must:

- Meet UNL entrance requirements for international transfer students
- Have a MELAB score of at least 80 or a minimum TOEFL score of 550, or computer-based score of 213, or Internet-based score of 79-80
- Have a minimum 3.0 cumulative GPA and be in good scholastic standing

### Students who transfer into the College of Architecture from other colleges at UNL must:

- Have a minimum 3.0 cumulative GPA for architecture and landscape architecture or 3.0 for interior design and be in good scholastic

standing. Students transferring from UNO and UNK are included in the new transfer student category.

**NOTE:** New transfer students must comply with new freshman student entrance requirements if they have completed less than 12 credit hours of college study.

## Readmission

Students who apply for readmission to the College of Architecture must have a minimum 3.0 cumulative GPA for architecture and landscape architecture or 3.0 for interior design, be in good scholastic standing and receive permission from the Dean of the College. Students may apply for admittance into the Pre-Architecture, Pre-Landscape Architecture, and Pre-Interior Design Program a maximum of three times.

## College Evaluation of Transfer Credit

First time students transferring to the College of Architecture from a similar accredited professional degree program will be evaluated on the basis of the current undergraduate bulletin in effect at the time the student enrolls in the College of Architecture.

**Process.** The program director will select and identify those courses that are applicable to the Professional Program in Architecture, Interior Design, and Landscape Architecture Programs. **The College of Architecture will not accept courses for transfer which are below a 2.0 on a 4-point scale.**

**Evaluation of Technical and Nonaccredited Transfer Credits.** Students who desire to transfer credits from technical or nonaccredited colleges must have architecture credits evaluated by the director and/or appropriate program representatives. Non-architecture credits will be evaluated by the appropriate university department.

**Evaluation of Graphics, Design, and Production Drawing Credit.** Transfer credit for graphics, basic and architectural and/or interior design work and production drawings will not be granted until the student's work has been reviewed by the Architecture or Interior Design Program Director. Allowable transfer credit in the design, production drawings, and graphics areas, whether the grades presented are C, B, or A, will be determined from this review and the student placed accordingly.

Confirmation procedure:

- It is the student's responsibility to initiate this task,
- The student procedure is to obtain the confirmation form from the Program Office and to seek review of appropriate materials, and
- A "portfolio review" will determine confirmation of credit. This review will be done by the appropriate faculty member or committee.

**Evaluation of General Education Credits.** Transfer students who have formally applied for admission will have their academic credits evaluated by

the University Office of Registration and Records and the College of Architecture. The College will evaluate all hours submitted on an admission application but reserves the right to reject any of these credits.

**Clarification and Appeal.** The student who has questions about or wishes to appeal the initial College evaluation of his or her transfer credit should contact the Program Office. If the evaluation is not satisfactorily resolved, the student has the right to register an appeal with the Student Affairs Committee of the Architecture or Interior Design Programs.

## Off-Campus Programs

The College of Architecture recognizes the need for some students to pursue their pre-architecture and pre-interior design studies at other institutions. Up to two semesters (30 semester credit hours) of off-campus study should cause minimal delay in students' educational timetables if courses can be selected from the following list and are approved by the College of Architecture. Students are encouraged to coordinate their off-campus Pre-Architecture and Pre-Interior Design Programs with the College of Architecture.

## Recommended Courses

Art Studio elective (10 hrs)

Calculus (5 hrs) for pre-architecture and landscape or Statistics (3 hrs) for pre-interior design/landscape

English Composition electives (6 hrs)

Humanities and Social Sciences electives (9 hrs)

*See UNL ACE requirements on page 17.*

Physics (4 hrs) for pre-architecture or Natural Science (4 hrs) for pre-interior design

Speech (3 hrs)

## College of Architecture Enrollment Policy

Enrollment in the pre-architecture, pre-interior design, and pre-landscape architecture majors shall be limited by available teaching resources and space capacities, therefore an enrollment limit is established for each of these programs.

Admission to the Pre-Architecture, Pre-Interior Design, and Pre-Landscape Architecture Programs occurs year-round; however, access to studio courses is not guaranteed for those students admitted beyond the February 15th deadline for transfer students or March 15th deadline for freshmen.

## College Academic Policies

### General Academic Requirements

#### Achievement-Centered Education (ACE)

The University of Nebraska–Lincoln requires

all students receive a broad general education as part of their academic experience. This requirement translates into the obligation of all students to fulfill the requirements of the ACE program. For a description of requirements for UNL's general education program, Achievement-Centered Education (ACE), which is effective AY 2009-10, see page 17.

## English

It is of vital importance that architects and interior designers be able to express themselves clearly and concisely. As a matter of routine, architects and interior designers are called upon to prepare reports, papers, or specifications in which clarity and precision are essential. For this reason, a student is required to do more than meet the English composition course requirement. In daily oral and written work the student must demonstrate an acceptable skill in the use of effective English. The dean may require students who fail to meet acceptable standards to do additional work in English composition or speech communication. Each instructor is expected to bring to the dean's attention the students who need additional work.

Students are expected to take either ENGL 101 plus ENGL 151. Or they may take ENGL 150 plus ENGL 151. ENGL 186, 187 and 192 may not be used to satisfy the freshman English composition requirement.

## Mathematics

Students in the Architecture Program are required to receive credit for MATH 106. Courses taken as deficiencies to qualify for MATH 106 will not apply as credit toward their degree. Students in Landscape Architecture are required to take either MATH 106 or STAT 218 to fulfill their mathematics requirement. Students in the Interior Design Program are required to take either MATH 203 or STAT 218 to fulfill their mathematics requirement.

## Registration Policy

### Drop/Add

The university's drop/add policy is outlined in the *Schedule of Classes* each semester. The professional program subscribes to the same rules and limitations indicated in this publication. In general, classes can only be added during the first week of the semester. You may drop a class from your schedule anytime during the first eleven weeks of the semester. After the eleventh week, withdrawal from the class is possible only for extraordinary circumstances and will be granted only by petition. Grounds for extraordinary withdrawal include: military service, medical illness, death in immediate family, personal trauma, or complete absence from all courses without officially withdrawing.

The specific deadline for dropping a class is listed in the *Schedule of Classes*. Students can access eNroll or use the NRoll telephone registration system (402-472-7272) to drop or add classes. Please be warned, failure to attend classes does not constitute proper notification of dropping a class. If you are unable to attend classes, you need to see

or telephone your instructor as soon as possible. Failure to do so may jeopardize your chances for dropping the class. If you wish to drop all your courses, you need to use the Withdrawal from the University form. See the section below for a description of this process.

The Drop/Add form is available in the Program Office.

### Pass/No Pass

None of the required classes offered in the professional program are offered Pass/No Pass, but a maximum of 12 Pass/No Pass credit hours of humanities, social sciences, or open electives may be taken from departments outside the College of Architecture.

Courses taken outside the Architecture or Interior Design Programs to fulfill the upper level outside elective requirement at the 800 level or 900 level, with or without a 400-level counterpart, in a **minor, collateral, or supporting area of work**, can be taken on a Pass/No Pass basis.

### Course Substitution

Students wishing to propose a course substitution in their curriculum of study must petition the Professional Program Committee by completing a substitution form. The substitution form should be filled out in consultation with your academic adviser. All proposals must include a detailed explanation for the substitution. The student's adviser must review and sign the completed form before it can be submitted to the Professional Program Committee. It is very important that these procedures be followed for an expeditious response to the proposal. Substitutions must be approved before enrolling in a substitute course.

Students are advised the Professional Program Committee meets once a month, and will not consider any substitution proposals without a completed form and explanation signed by their adviser. The process to obtain a course substitution is lengthy and can not be accomplished at the "eleventh hour" to compensate for poor academic planning.

Copies of the substitution form are available in the Program Office.

### Independent Study

Credit hours earned through independent study (ARCH 398, 498, 598 and 898; LARC 398, 498, 598; and IDES 398, 498, 898) need to be formally arranged with the faculty member supervising the work prior to registration for those credit hours. This is accomplished through completion of the Independent Study Contract available in the Program Office. It must have the signature of the faculty sponsor and be filed with the Program Office in order to be valid.

Students are limited to a total of **9 credit hours** of independent study over the course of their academic career in the professional program.

### Transfer Credit

All professional credit earned at another university to be applied toward the master of architecture degree must be approved by the Professional Program Committee in cooperation with the Program Chair. At least

50 percent of the required course work for the professional degree must be completed at the University of Nebraska-Lincoln with the exception of those students who are applying to enter the program with a four year degree from an accredited architecture program. No professional transfer credit will be accepted from a non-accredited architecture program.

## Registration Limitations

Students are not allowed to register for 300-800 level architecture or interior design courses unless they have been admitted into their respective professional programs. Some specific courses allow registration of non-majors with permission of the faculty member teaching the course but this permission process is not available to majors.

The programs have adopted limits on the number of credit hours a student can register for without the permission of the Chair. Students in good academic standing are allowed to register for a maximum of 17 credit hours. Students wishing to exceed this number must secure permission from the Chair prior to registering for the courses. Under no circumstances can a student register for more than 19 hours in a semester.

Students who are on academic probation are restricted to a maximum number of 12 credit hours. Under no circumstances will they be allowed to exceed this number while on probation. For more specific limitations for students on academic probation see the text on Academic Standing earlier in this section.

## Withdrawal from the University

Dropping all classes in which you are enrolled constitutes a withdrawal from the University. Before the mid-point of the semester you can withdraw from all your classes using eNroll online or by using the NRoll system (472-7272, transaction code 9), file an Application for Withdrawal at the Registration Service Counter in the Administration Building, or send a letter to the Registration Office. After the halfway point one can NOT withdraw using eNroll or NRoll Systems.

If you are receiving financial aid it is strongly recommended that you visit with this office before you initiate the withdraw. You may be liable for the return of funds.

## Military Science, Naval Science, Aerospace Studies and/or Physical Education

A maximum combination of courses in these areas totaling 6 credit hours can be applied toward the bachelor of science in design degree as elective credit.

## Full Time Status/Credit Hour Limits

Students in the bachelor of science in design (BSD) degree program must be enrolled in 12 credit hours of course work to be classified as a full time student. Students in the master of architecture degree program must be enrolled in 9 credit hours of course work to be classified as a full time student. Students participating in one of the department's study abroad programs enrolled in less than the credit hours specified above may also be classified as full time students with permission of the chair.

BSD students must obtain permission from the chair of the department to enroll in more than 17 credit hours prior to the start of the semester. Students in the MArch program must obtain similar permission to exceed 15 credit hours.

## Employment and Course Load Guidelines

The study of architecture is a demanding discipline requiring a significant commitment to succeed. For this reason, the department has adopted a policy recommending students who are employed to not exceed the following registration guidelines:

Work load per week	Course load per semester
0 hours	up to 18 credit hours
8-16 hours	13-16 credit hours
17-20 hours	10-12 credit hours
Full time	up to 6 cr hours

Professional students holding teaching or research assistantships are required to be enrolled as a student in the professional program and their course load cannot exceed 12 credit hours per semester. Students holding these positions are prohibited from engaging in any other form of remunerative employment without the permission of the Chair of the Program.

## Senior and Professional Check and Application for Degree

During the last semester of the third year of study, senior checks are to be initiated by the student and reviewed by the student's adviser. The senior check forms are maintained by the adviser and filed in the students' advising folders.

Students must complete senior checks with their advisers and, after the adviser signs off on it, submit them to the Program Office for final processing and approval during early registration for their last semester in the BSD program.

A similar procedure applies to students in the MArch and BLA programs. The professional check will be initiated in the student's first year in the program. The final check, with their adviser and submittal to the Program Office for processing and approval, should occur during the early registration period for the last semester in the MArch program.

Students in both the BSD and MArch degree programs must also file a graduation notice with the Credentials Office early in the semester in which they intend to graduate. Failure to meet the published deadline will delay graduation one full term.

## Course Hold for Professional Credit

Seniors who have obtained in advance the approval of the Architecture Program director may receive up to 12 hours credit towards their MArch degree prior to the completion of their BSD degree provided the following conditions are met:

- they are above the courses required for their BSD degree;
- are taken under the 500 number; and

- are taken in the calendar year prior to the receipt of the BSD.

## Degree Time Limits

Students will be required to complete course work for their degree within a ten year period from the time they are admitted into the professional program in the third year.

## Grading and Academic Standing

The standing of a student in any course is determined by the instructor(s) in charge by personal observation, examination, and evaluation of student projects. Specific methods of evaluation are included in individual course syllabi. If a student has any questions regarding evaluation it is their responsibility to engage the faculty member offering the course in discussion to clarify their intent.

### Minimum Grades

Students must earn at least a C (2.0) in all courses with an ARCH, IDES, or LARC prefix to earn credit toward their degree. Students will be required to retake all core required courses with a grade of C- or below, but will not be required to repeat courses that were taken as electives.

### Removal of Grades C- or Below

A professional student receiving a grade of C- or below for an overall course grade may remove that grade by retaking the same course again and receiving a higher grade. The higher grade will be used to compute the student's cumulative grade point average, but all grades appear on the student's transcript. The Pass/No Pass option cannot be used to remove these grades from the grade point average. Please be advised that once a course is no longer taught and no longer offered by the department it is not possible to remove a grade of C- or below through substitution or any other means.

Should you perform poorly in many courses during a semester it is possible to bankrupt the entire semester's grades. This is a drastic action and should be pursued only after a visit with your adviser.

### Incomplete Grades

Incompletes for students in the pre-professional program shall be granted only for reasons outlined in the policy statement adopted by the University Senate. See the *UNL Schedule of Classes* for the complete text.

Incompletes given to students in the professional program are granted at the discretion of the faculty awarding the grade. The faculty and student together must file an incomplete form in the department office to register the anticipated completion date and the grade that will be registered if the work is not completed by that time.

Architecture students will be allowed a maximum of two weeks to remove incompletes from courses that are prerequisites to classes in which they are currently enrolled or they will be administratively dropped from those courses.

## Scholastic Standing

The following scholastic standards have been established to maintain the level of quality for students enrolled in the Architecture Program.

### Pre-Professional Program, Architecture, Landscape Architecture and Interior Design

Students in the first year are required to maintain both a semester and cumulative grade point average at or above 2.0. The standard rises to a grade point average of 2.6 in the second year. Admission into the third year of both programs requires a cumulative grade point average of 2.6. The College places students who fail to meet these standards on academic probation.

### Third and Fourth Year, Architecture

Students in the third and fourth year of the BSD program are required to meet two parallel academic standards. First the student must maintain a semester grade point average of 2.6 to remain in good academic standing. The Program places students who fail to meet this standard on academic probation. Further, students whose GPA for the academic year is between 2.6 and 3.0 are required to submit their studio work for review by the Student Affairs Committee for determination of continuance in the program or repetition of the year's studio sequence.

### Third and Fourth Year, Interior Design and Landscape Architecture

Students in the third and fourth year of the BSD program are required to maintain a 2.6 cumulative grade point average to remain in good academic standing. The Program places students who fail to meet this standard on academic probation.

### Fifth and Sixth Year, Architecture

Students in the MArch program are required to maintain a semester grade point average of 3.0 to remain in good academic standing. The Program places students who fail to meet this standard on academic probation.

## Probation, Appeals and Dismissal

### Probation

BSD students who are placed on probation will not be allowed to take any new architecture or interior design courses without the permission of the Program Director. Students will be allowed to retake architecture and interior design courses while on probation. Students may not take the same course more than three times.

Students in the BSD degree program placed on academic probation by the College for two consecutive semesters will be transferred out of the College of Architecture into General Studies and must reapply for admission to the College and the Architecture, Landscape Architecture, or Interior Design Programs. Students must have a cumulative GPA of 3.0 to be readmitted from General Studies into architecture and 2.8 into interior design.

Students in the MArch program placed on probation will be allowed to continue with their classes for one semester. If their next semester grade point average is below a 3.0 they are dismissed from the degree program. Students desiring to be readmitted will have to apply for admission to the professional program.

Students who register for new architecture or interior design courses while on probation will be administratively dropped from those courses unless they have received the permission of the Program Chair.

### Grading Appeals

A student wishing to appeal a grade should contact his or her professor for clarification first before an appeal can be filed. If the dispute cannot be resolved with the instructor it is recommended that the student meet with their adviser to get clarification on the appeals process. Appeals are only considered where it can be demonstrated that prejudice or capricious treatment influenced the grade received by the student.

Having exhausted these avenues, a student may then choose to make a formal appeal. The appeal is in the form of a written statement from the student to the Program Chair. The Chair will then forward the letter to the Faculty Affairs Committee. The deadline for filing a grade appeal (which includes a written statement from the student) is 30 calendar days after the first day of classes of the next regular semester (fall or spring). Appeals filed after the deadline will not be heard.

### Appeal of Academic Dismissal

A student wishing to appeal a dismissal or suspension from the University, College, or Program must contact their adviser. The student should complete the Academic Reinstatement Appeal form available in the Dean or Program offices.

### Readmission to the College of Architecture

Former students who withdraw after being admitted to the College, or who have been academically suspended and wish to be readmitted must: a) be readmitted to the College in good scholastic standing, and b) be in good scholastic standing in accordance with the departmental standards and receive permission from the chair of the department. Applicants for readmission will compete for spaces available with all other admission applicants.

### Ownership of Class Work

Significant student work will be retained on file by the program each semester as a necessary record for accrediting purposes and periodic display. Other student work must be retrieved by the student no later than 7 working days past the end of the semester.

The College of Architecture is not responsible for storing or returning student work. In addition, all padlocks left on lockers will be cut, and the materials in the lockers confiscated after completion of spring semester.

## Degree Programs and Areas of Study

### Architecture Program

**Program Director:** Mark Hoistad, 232 Architecture Hall  
**Professors:** Borner, Duncan, Hoistad, Kuska, Laging,

Mutunayagam, Potter, Scholz

**Associate Professors:** Day, Despang, Ertl, Handa, Hardy, Hinchman, Krug, Morgado

**Assistant Professors:** Ford, Hemsath, Hind, Jung, Rice

**Professors Emeritus:** Corkill, Gibbs, Guenter, Moore, Puderbaugh, Sawyers, Steward

The primary responsibility of the architectural profession is the design of meaningful environments for human occupation and use. Architects, therefore, must be able to understand the needs and desires of the people who will inhabit and use their creations and then effectively synthesize the complex structural, mechanical and constructional components that go into the design of a building. Clearly, they must possess artistic talent as well as technical knowledge.

The Architecture Program seeks to increase students' desire to learn and to develop a capacity for critical thinking and sound judgement while simultaneously developing their innate creative potential. Specifically, the curriculum provides the background and means for the student to:

1. Analyze and understand society's needs and desires,
2. Translate these into a physical form,
3. Contribute creatively to the building construction industry,
4. Search out new problems and contribute to environmental knowledge through research,
5. Initiate and review changes in technology and society, and
6. Participate in the community that makes decisions affecting the physical environment.

### The Master of Architecture Professional Program

#### General

The Professional Program in Architecture is a six-year course of study that includes a two-year pre-professional segment, a two-year core segment culminating in the award of the bachelor of science in design (BSD) and culminates in the final two-year exploratory segment which results in the receipt of the professional master of architecture degree (MArch).

Although the bachelor of science in design degree is an integral part of the four-year Professional Program in Architecture, it should be clearly understood that the undergraduate BSD is not a professional degree and is not accredited by the National Architectural Accrediting Board. Most state registration boards will not acknowledge any degree unless accompanied by an accredited professional degree.

The accredited, first professional degree awarded by the College of Architecture is the

**master of architecture** degree which is awarded at the successful conclusion of the Professional Program in Architecture. This is the only accredited professional architecture program in the state of Nebraska.

Upon successful completion of the two-year Pre-Architecture Program and admission to the four-year Professional Program in Architecture, students may enroll in the curriculum that leads to the BSD degree and the MArch degree.

The Professional Program in Architecture is structured to develop highly competent professional architects. Each applicant, depending on previous academic training, professional practice, and specific interest, will work with their adviser in establishing a specific program of study suited to his or her abilities and career objectives.

### Pre-Architecture Curriculum

Completion of the Pre-Architecture Program is required for admission to the Architecture Program (third year admission). The pre-architecture curriculum can be referenced through the current listing of courses available in room 232 in Architecture Hall or the College Web page.

### Admission to the 4-Year Master of Architecture Program

After completion of the first two years of pre-architecture studies, either within the College of Architecture or at another institution, students may apply for admission to the Architecture Program.

Pre-architecture majors should apply for admission to the Professional Program in Architecture. Successful applicants will have their major changed from pre-architecture to BSD-Architecture option.

Available teaching resources and space capacities limit enrollment to the third year of architectural studies; therefore enrollment limits are established each semester.

Required courses must be completed before advancing to the next year of study.

### Minimum Entrance Requirements

To be considered for admission to the Architecture Program, applicants must:

1. Be enrolled in the College of Architecture
2. Be in good scholastic standing
3. Have completed the 1st and 2nd year Pre-Architecture Program of study

### Third Year Admission Process

1. An application for admission may be completed by filling out the online application. The Program receives applications once a year in early February.
2. Applicants must submit a portfolio conforming to the defined criteria for the program applied for by the date posted at the completion of the spring semester.
3. Any applicant who has previously applied for admission and has not been accepted or who fails to enroll in the Professional Program in

Architecture after an acceptance must reapply in the regular manner. Students may apply for admission to the Architecture Program only three times.

## Evaluation

The Student Affairs Committee of the program will carefully evaluate the applications for admission. The committee considers three elements in their evaluation; cumulative grade point average, a weighted grade point average, and the portfolio of student work. The weighted grade point average gives additional value to the applicant's achievement in the required ARCH prefix course or transfer equivalents in the pre-professional curriculum.

## Selection

Admission to the Architecture Program will be awarded to applicants who show the greatest professional potential and have demonstrated scholastic achievement. The Student Affairs Committee reserves the right to not fill all available spaces in the Professional Program in Architecture if it determines that the remaining applicants have not performed at an acceptable level.

## Admission to the 2-Year Master of Architecture Program

Students from both inside and outside the program must apply to gain admission to the 2-year MArch degree program. Applications are available in October from the department office and are reviewed once a year in February. The Graduate Record Examination is not required.

**All applications for admission are subject to approval of the Student Affairs Committee. Fifth and sixth year enrollment shall be limited by the teaching resources and space capacities of the department. An enrollment quota is established prior to each admissions cycle.**

Students in the Professional Program are governed by the rules, procedures and policies established in the Architecture Program. These are published in the Student Guide or by official notification by the faculty.

## Minimum Entrance Requirements

To be considered for admission to the 5th and 6th year of the Professional Program in Architecture, applicants must:

- Have a 4-year degree from an accredited architecture program
- Present a portfolio of design work
- Be in good scholastic standing
- Have a B average or its equivalent in past academic programs

The Student Affairs Committee of the Architecture Program requires a minimum TOEFL score of 550 or 213 computer-based or Internet-based score of 79-80 for all international student applicants whose first language is not English.

## Evaluation

A portfolio of an applicant's recent design work will be evaluated by the Student Affairs Committee of the Architecture Program and is considered to be a very important part of the application review process, along with the applicant's educational profile, letters of recommendation, transcripts, and application form.

## Selection

The limited number of spaces available each semester will be awarded to applicants who have displayed the highest abilities in a combination of scholastic achievement, design capability, and professional potential.

The Admissions Committee reserves the right to reject applicants who, in its opinion, have not reached an acceptable level of design proficiency.

## Admission to the 3-Year Master of Architecture Program

### Minimum Entrance Requirements

To be considered for admission to the 3-year MArch program, applicants must:

- Have a four-year bachelor degree
- Have a B (3.0) cumulative grade point average in past academic programs

The Student Affairs Committee requires a minimum TOEFL score of 550 or 213 computer-based or Internet-based score of 79-80 for all international student applicants whose first language is not English.

## Evaluation

The Student Affairs Committee evaluates the candidate's past academic record, three letters of recommendation, a statement of educational goals and the information requested on the application form. A portfolio is not required for candidates applying for the three year masters degree program, however, providing evidence of past achievements and/or creative activity is helpful to the committee in its evaluation.

## Selection

The limited number of spaces available each semester will be awarded to applicants who have displayed the highest abilities in a combination of scholastic achievement and professional potential.

## Deficiencies

The Student Affairs Committee and/or the Program Chair reserve the right to require additional course work be done to correct perceived deficiencies in the candidates educational background.

## Interior Design Program

**Program Director:** Betsy Gabb, 232 Architecture Hall  
**Professors:** Ankerson, Gabb  
**Associate Professors:** Case, Hinchman  
**Assistant Professors:** Allisma, Ellsworth-Bahe

## General

This four-year, undergraduate program is for the student interested in becoming a professional interior designer. The professional interior designer is a person qualified by education, experience, and examination to 1) identify, research, and creatively explore issues related to the quality of the interior environment; 2) perform design services in interior spaces, including programming, design analysis, space planning and aesthetics, using specialized knowledge of interior construction, building systems and components, building codes, equipment materials and furnishings; and 3) prepare drawings and documents describing the design of interior spaces; in order to enhance and protect the health, safety, and welfare of the public.

Upon successful completion of two years of pre-interior design studies and admission to the Interior Design Program, students in the Interior Design Program may enroll in the curriculum which leads to a bachelor of science in design (BSD-Interior Design) degree.

## Pre-Interior Design Curriculum

Completion of the Pre-Interior Design Program is required for admission to the Third Year of the Interior Design Program. The pre-interior design curriculum can be referenced through the current listing of courses available in room 232 in the College of Architecture or on the Web page.

## Admission to the 2-Year Bachelor of Science in Design Program—Interior Design

### Minimum Entrance Requirements

To be considered for admission to the Interior Design Program, applicants must:

1. Be enrolled in the College of Architecture
2. Be in good scholastic standing
3. Have completed the appropriate 1st and 2nd year Pre-Architecture or Pre-Interior Design Program of study

## Third Year Admission Process

1. An application for admission may be completed by filling out the online application. The program receives applications once a year in early February.
2. Applicants must submit a portfolio conforming to the defined criteria for the program applied for by the date posted at the completion of the spring semester.
3. Any applicant who has previously applied for admission and has not been accepted or who fails to enroll in the Professional Program in Architecture or the Interior Design Program

after an acceptance must reapply in the regular manner. Students may apply for admission to the Interior Design Program only three times.

## Evaluation

The faculty of the Interior Design Program will carefully evaluate the applications for admission. The committee considers three elements in their evaluation: cumulative grade point average, a weighted grade point average, and the portfolio of student work. The weighted grade point average gives additional value to the applicant's achievement in the required ARCH or IDES prefix course or transfer equivalents in the pre-professional curriculum.

## Selection

Admission to the Interior Design Program will be awarded to applicants who show the greatest professional potential and have demonstrated scholastic achievement. The faculty reserves the right to not fill all available spaces in the Professional Program in the Interior Design Program if it determines that the remaining applicants have not performed at an acceptable level.

## Landscape Architecture Program

**Program Director:** Mark Hoistad, 232 Architecture Hall  
**Professors:** Hoistad, McCallister, Sutton  
**Associate Professors:** Day, Rodie, Todd  
**Assistant Professor:** Rice

The primary responsibility of the landscape architecture profession is the design and stewardship of the built and natural environments. Landscape architects, therefore, must be able to understand the process of nature and the impact human settlement has on these ecosystems. This requires professionals to manage storm water, select appropriate plant material, and anticipate human impact all with an eye on a sustainable future.

The Landscape Architecture Program seeks to increase students' curiosity capacity for critical thinking, collaborative skills, and creative potential in service to the environment and humanity. Specifically, the curriculum provides the background and means for the student to:

1. Analyze and understand the relationship between humanity and the natural world it inhabits
2. Creatively explore the potential of interventions into the developed and underdeveloped environment
3. Search out new problems and contribute to solutions through research and experimentation
4. Participate in the community that makes decisions affecting the physical environment

## Bachelor of Landscape Architecture

### General

The Professional Program in Landscape Architecture is a five-year course of study. Students advance through three segments in the curriculum; the two-year pre-professional, two-year professional core leading to the award of the non-professional bachelor of science in design (BSD) degree, and the one-year exploratory segment culminating in the professional bachelor of landscape architecture degree (BLA).

Students are required to take an array of courses in support of the core studio sequence in addition to the university's general education courses. These courses include material in horticulture, architecture, planning, and engineering in addition to core landscape architecture classes. This curriculum exposes students to various issues facing the landscape architecture profession including plant material, soils, landscape ecology, construction issues, drainage, site circulation and issues created by urbanism.

### Pre-Landscape Architecture Curriculum

Completion of the Pre-Landscape Architecture Program curriculum is required for admission into the Professional Landscape Architecture Program (third year admission). The pre-landscape architecture curriculum can be referenced through the current listing of courses available in room 232 in Architecture Hall or the College Web site.

### Admission to the Landscape Architecture Program

After completion of the first two years of pre-landscape architecture studies, either within the College of Architecture or at another institution, students may apply for admission to the Architecture Program.

Pre-landscape architecture majors should apply for admission to the Professional Program in Landscape Architecture. Successful applicants will have their major changed from pre-landscape architecture to BSD-Landscape Architecture option.

Available teaching resources and space capacities limit enrollment to the third year of architectural studies; therefore enrollment limits are established each semester.

### Minimum Entrance Requirements

To be considered for admission to the Landscape Architecture Program, applicants must:

1. Be enrolled in the College of Architecture
2. Be in good scholastic standing
3. Have completed the 1st and 2nd year Pre-Landscape Architecture Program of study

### Third Year Admission Process

1. An application for admission may be completed by filling out the online application. The Program receives applications once a year in early February.

2. Applicants must submit a portfolio conforming to the defined criteria for the program applied for by the date posted at the completion of the spring semester.
3. Any applicant who has previously applied for admission and has not been accepted or who fails to enroll in the Professional Program in Architecture after an acceptance must reapply in the regular manner. Students may apply for admission to the Landscape Architecture Program only three times.

### Evaluation

A faculty committee of the program will carefully evaluate the applications for admission. The committee considers three elements in their evaluation; cumulative grade point average, a weighted grade point average, and the portfolio of student work. The weighted grade point average gives additional value to the applicant's achievement in the required LARC prefix course or transfer equivalents in the pre-professional curriculum.

### Selection

Admission to the Landscape Architecture Program will be awarded to applicants who show the greatest professional potential and have demonstrated scholastic achievement. The faculty reserves the right to not fill all available spaces in the Professional Program in Landscape Architecture if it determines that the remaining applicants have not performed at an acceptable level.

### Admission to the 1-Year Bachelor of Landscape Architecture Program

Students from both inside and outside the program must apply to gain admission to the 1-year BLA degree program. Applications are available in October from the department office and are reviewed once a year in February.

All applications for admission are subject to approval of the faculty. Enrollment shall be limited by the teaching resources and space capacities of the program. An enrollment quota is established prior to each admissions cycle.

Students in the Professional Program are governed by the rules, procedures and policies established in the Landscape Architecture Program. These are published in the Student Guide or by official notification by the faculty.

### Minimum Entrance Requirements

To be considered for admission to the BLA Professional Program in Landscape Architecture, applicants must:

- Have a 4-year degree from an accredited landscape program or its equivalent as determined by the program director
- Present a portfolio of design work
- Be in good scholastic standing
- Have a B average or its equivalent in past academic programs

The faculty of the Landscape Architecture Program require a minimum TOEFL score of 550 or 213 computer-based or 79-80 Internet-based score for all international student applicants whose first language is not English.

## Evaluation

A portfolio of an applicant's recent design work will be evaluated by the faculty of the Landscape Architecture Program and is considered to be a very important part of the application review process, along with the applicant's educational profile, letters of recommendation (required for outside applicants only), transcripts, and application form.

## Selection

The limited number of spaces available each semester will be awarded to applicants who have displayed the highest abilities in a combination of scholastic achievement, design capability, and professional potential.

The Admissions Committee reserves the right to reject applicants who, in its opinion, have not reached an acceptable level of design proficiency.

## Minors

Students can earn a minor in landscape architecture by the completion of the following course work:

<b>Core Requirements .....</b>	<b>10</b>
ARCH 240 History of Architecture .....	3
HORT 200 Landscape & Environmental Appreciation .....	3
HORT 498 Topics in Landscape Architecture .....	1
ARCH 360 Site Context Issues .....	3
<b>Elective Requirements .....</b>	<b>6-8</b>
<i>(select one of the following:)</i>	
HORT 130 Intro to Horticulture Science .....	4
HORT 212 Landscape Plants I .....	3
HORT 214 Perennials .....	3
HORT 266 Intro to Landscape Design .....	4
<i>(select one of the following:)</i>	
HORT 339/ARCH 467 Planting Design .....	4
HORT 341/ARCH 468 Landscape Construction .....	3
HORT 469/ARCH 469 Senior Design .....	4

Students can earn a minor for any course of study defined by the faculty offering the courses related to the minor. This generally requires additional course work on top of that defined in the professional curriculum.

## Joint Degree Programs

### Civil Engineering

The departments of civil engineering and architecture offer a joint degree program of study. This program allows the student to obtain the masters degree in architecture and the bachelors degree in civil engineering after seven years of study. A suggested sequence of courses can be obtained from your adviser or the program office. Special advising for this program is provided by Professor Kuska.

### Business

Architecture majors accepted to the 5th and 6th years may choose to pursue a three-year course of

study that leads to joint degrees of master of architecture and master of business administration. Participation in this joint degree program requires admission into both the MArch ad MBA programs. Students should consult with their adviser to develop an appropriate plan.

## Community and Regional Planning

Architecture majors accepted to the 5th and 6th years may choose to pursue a course of study that leads to joint degrees of master of architecture and master of community and regional planning. A suggested sequence of courses can be obtained from your adviser, the Architecture Program Office, or the Community and Regional Planning Program Office.

## Construction Management

Architecture majors accepted to the 5th and 6th years may pursue a course of study that leads to joint degrees of master of architecture and master of engineering in construction management. This requires acceptance by the Construction Management Program. The required course sequence can be obtained from your adviser.

## Nonprofessional Master of Science Degree and PhD/EdD Degrees

The scholarly-nonprofessional master of science degree is a scholarly, research-based curriculum. For more information, please see the *University of Nebraska–Lincoln Graduate Bulletin*.

## Community and Regional Planning Program

**Chair:** Gordon Scholz, 302 Architecture Hall

**Professors:** Mutunayagam, Scholz

**Associate Professor:** Cantarero

**Assistant Professor:** Nam

**Professors Emeritus:** Fischer, Hulvershorn

The Community and Regional Planning Program offers the master of community and regional planning (MCRP) degree; however, several courses in the Department are also offered at the advanced undergraduate level and are available to undergraduate students in all majors.

The master of community and regional planning degree program provides preparation for professional planning practice in the public, private, and nonprofit sectors.

Planning is an interdisciplinary problem-solving profession that influences a broad range of future-oriented decision making. Planners work with individuals, groups, and organizations to formulate plans, policies, and strategies through which desired change can be achieved. Planners utilize a wide variety of methods and techniques to identify problems and needs and to formulate plans of action that effectively address those needs. Planners often need to accommodate differing viewpoints in the process of formulating desirable and compatible plan and policy recommendations.

The MCRP degree program emphasizes the understanding of the importance of and interrelationships among human resources, natural

resources, socio-cultural characteristics, economic activity, political and institutional roles, and characteristics of the natural and built environment. The program provides students with a sound foundation in planning theory, methods, process, and application—a background which enables graduates to formulate, initiate, and coordinate a broad range of planning and development actions.

## Master of Community and Regional Planning Curriculum

The MCRP degree program requires completion of 48 graduate credit hours, 24 of which are in a required core curriculum.

### Required Core Courses

CRPL 400/800. Intro to Planning (3 cr)
CRPL 802. Planning Theory (3 cr)
CRPL 804. Legal Aspects of Planning (3 cr)
CRPL 810. Qualitative Techniques for Planners (3 cr)
CRPL 830. Intro to Computers in Planning (3 cr)
CRPL 840. Planning Methods & Analysis (3 cr)
CRPL 900. Professional Planning Practice (3 cr)
CRPL 990. Planning Studio (3 cr)

Total Required Core Course Credit Hours: 24

### Elective Courses

In addition to the required core courses in the MCRP program, students must complete at least 9 graduate credit hours in an area of concentration and 15 graduate credit hours in one of the following three tracks: 1) 9 credit hours of approved electives, a 6-credit-hour masters thesis, and an oral examination; 2) 9 credit hours of approved electives, a 6-credit-hour professional project, and an oral examination; or 3) 15 credit hours of approved electives and a comprehensive written examination.

The written comprehensive examination for track 3 is scheduled and administered by the Department typically no more than once each semester. The examination must be taken on one of the examination dates established by the Department. The examination covers the student's program of studies for the MCRP degree, as approved by the Department and the Office of Graduate Studies.

Five areas of concentration are offered by the Department: 1) physical planning, 2) social planning, 3) environmental planning, 4) economic development planning, and 5) transportation planning. Courses in these concentrations are offered inside and outside the Department. Other individualized areas of concentration may be proposed and pursued by students, subject to approval by the Department graduate committee.

### Dual Degree Programs

The MCRP degree may be pursued within either of three dual degree programs at the University of Nebraska–Lincoln.

One program is the MCRP/JD dual degree program, offered in collaboration with the College of Law. This program enables completion of both the MCRP degree and the juris doctor degree in a four-year period.

The second program is the MCRP/MArch dual degree program, offered in collaboration with the Architecture Program. This program enables completion of both the MCRP degree and the master of architecture degree in a three-year period. This program is intended for persons who hold the bachelor of science in design (BSD) or equivalent undergraduate degree.

The third program is the MCRP/MS-CE (transportation specialization) in collaboration with the Civil Engineering Department. Persons interested in the dual degree programs should inquire with the Chairperson of the Community and Regional Planning Program.

## Interdepartmental Programs

The Community and Regional Planning Program cooperates with other disciplines in offering courses for three designated interdepartmental areas: 1) Water Resources Planning and Management, 2) Public Policy Analysis and Program Evaluation, and 3) Environmental Studies. Persons interested in these areas in conjunction with the MCRP degree should consult with the Chair of the Community and Regional Planning Program.

## Admission to the Master of Community and Regional Planning Program

Students with diverse undergraduate, graduate, and professional backgrounds are encouraged to enter the MCRP degree program. No prior course work in planning is required. However, applicants are expected to have completed at least one course each in statistics, economics, and the social sciences, with a grade of C or better. The Department graduate committee may specify how the applicant is to make up deficiencies in any of these areas.

Applications for admission to the MCRP degree program must be submitted by March 15 for fall semester admission and by November 1 for spring semester admission. Applications must include the following:

1. Application for Admission to the Graduate College form, submitted to:  
Office of Graduate Studies  
University of Nebraska–Lincoln  
301 Canfield Administration Building  
PO Box 880434  
Lincoln, NE 68588-0434
2. Two official copies of all college transcripts, submitted to the Office of Graduate Studies;
3. Official score report for the Graduate Record Exam General Test, submitted to the Office of Graduate Studies;
4. Three letters of recommendation on standard Graduate Studies forms, submitted to:  
Community and Regional Planning Program  
University of Nebraska–Lincoln  
302 Architecture Hall  
PO Box 880105  
Lincoln, NE 68588-0105
5. An essay responding to program application form questions, submitted to the Program office.

## Courses of Instruction

### Architecture (ARCH)

**[ES] 106. Introduction to Design** (IDES 106) (3 cr) Lec 3. Investigations into architecture, interior design and related design fields—the forces that shape these fields and the processes of production upon which they rely.

**(ACE 8) 107. Sustainability Basics and the Built Environment** (3 cr)

Introduction to the fundamentals, principles and current assessments relative to responsible, sustainable design as applied to the built environment.

**(ACE 2) 140A. Visual Literacy Lab: Analysis and/or Composition** (ARTP, IDES, JGEN, LARC, TXCD 140A) (2 cr) Lab 6. Prereq: ARTP: Art major or candidate for teaching endorsement in art. ARCH: Admission to the College of Architecture. IDES: Admission to the College of Architecture. JGEN: College of Journalism and Mass Communications major and 2.75 GPA. LARC: Admission to the College of Architecture. TXCD: Textiles, Clothing and Design major or minor. For course description, see ARTP 140A.

**(ACE 2) 140B. Visual Literacy Lab: Perceptual Drawing** (ARTP, IDES, JGEN, LARC, TXCD 140B) (2 cr) Lab 6. Prereq: ARTP: Art major or candidate for teaching endorsement in art. ARCH: Admission to the College of Architecture. IDES: Admission to the College of Architecture. JGEN: College of Journalism and Mass Communications major and 2.75 GPA. LARC: Admission to the College of Architecture. TXCD: Textiles, Clothing and Design major or minor. For course description, see ARTP 140B.

**(ACE 2) 141A. Visual Literacy Lab: Color** (ARTP, IDES, JGEN, LARC, TXCD 141A) (2 cr) Lab 6. Prereq: ARTP: Art major or candidate for teaching endorsement in art. ARCH: Admission to the College of Architecture. IDES: Admission to the College of Architecture. JGEN: College of Journalism and Mass Communications major and 2.75 GPA. LARC: Admission to the College of Architecture. TXCD: Textiles, Clothing and Design major or minor. For course description, see ARTP 141A.

**(ACE 2) 141B. Visual Literacy Lab: Speculative Drawing** (ARTP, IDES, JGEN, LARC, TXCD 141B) (2 cr) Lab 6. Prereq: ARTP: Art major or candidate for teaching endorsement in art. ARCH: Admission to the College of Architecture. IDES: Admission to the College of Architecture. JGEN: College of Journalism and Mass Communications major and 2.75 GPA. LARC: Admission to the College of Architecture. TXCD: Textiles, Clothing and Design major or minor. For course description, see ARTP 141B.

**(ACE 2) 142. Visual and Aural Literacy** (ARTP, IDES, JOUR, LARC, TXCD 142) (2 cr) Lec 2, lab 2. Prereq: ARTP: Art major or candidate for teaching endorsement in art. ARCH: Admission to the College of Architecture. IDES: Admission to the College of Architecture. JOUR: College of Journalism and Mass Communications major and 2.75 GPA. LARC: Admission to the College of Architecture. TXCD: Textiles, Clothing and Design major or minor. For course description, see JOUR 142.

**(ACE 2) 143. Visual Literacy: Art and Design** (ARTP, IDES, JGEN, LARC, TXCD 143) (2 cr) Lec 2, lab 2. Prereq: ARTP: Art major or candidate for teaching endorsement in art. ARCH: Admission to the College of Architecture. IDES: Admission to the College of Architecture. JGEN: College of Journalism and Mass Communications major and 2.75 GPA. LARC: Admission to the College of Architecture. TXCD: Textiles, Clothing and Design major or minor. For course description, see ARTP 143.

**210. Elements of Architectural Design I** (IDES 210, LARC 210) (3 cr) (UNL, UNO) Lec 1, lab 4. Prereq: ARCH/ARTP/JGEN/IDES/LARC/TXCD 140A, 140B, 141A, 141B, and 143; parallel ARCH/IDES/LARC 220.

Design issues applied to the making of architectural space and form. Skills and processes to develop architectural elements. Enclosure, proportion, materiality, and transition as determinants.

**211. Elements of Architectural Design II** (IDES 211) (3 cr) Lec 1, studio 6. Prereq: ARCH 210 and 220; parallel ARCH 221.

Analysis and creation of architectural space and form. Development of a given project statement and generation of individual

intentions into architectural proposals. Human scale, light, and structure as form determinants. Design parameters initially considered as isolated entities and then synthesized into mutually reinforcing totalities.

**220. Graphic Communication I** (IDES 220, LARC 220) (2 cr) Lec 2, lab 1. Prereq: ARCH/ARTP/JGEN/IDES/LARC/TXCD 140A, 140B, 141A, 141B, and 143; parallel ARCH/IDES/LARC 210.

Introduction to the systems of orthographic projection and graphic expression. Representation of depth, movement, and structure through the use of line, tone, and transparency. Instrument and freehand exercises in lettering, descriptive geometry, plans, elevations, and sections.

**221. Graphic Communication II** (IDES 221) (2 cr) Lec 3, lab 1. Prereq: ARCH/IDES 210 and 220; parallel ARCH 211.

Development of the system of architectural graphic expression. Instrument and freehand exercises in pictorial drawings, perspective, reflections, shades and/or shadows and color.

**223. Computer Applications in Design** (IDES 223, LARC 223) (3 cr) (UNL, UNO) Lec 1, lab 4.

Application of computer technology to architectural and interior design. Effective use of computer technology to aid investigation in design studios.

**(ACE 5, 7) [ES] 240. Architecture History and Theory I** (3 cr) Lec 3. Prereq: Sophomore standing and permission.

Survey of the development of architecture from prehistory to the mid-eighteenth century.

**(ACE 7) 241. Architecture History and Theory II** (3 cr) Prereq: Sophomore standing and permission.

Survey of the history and theory of architecture from the mid-eighteenth century to the present day.

**(ACE 10) 310. Fundamentals of Architectural Design** (5 cr) Studio 12. Prereq: Admission to the BSD program and parallel ARCH 350.

Introduction to the design process using normative and exploratory methods. Investigation, analysis, synthesis, development, presentation and critique of elementary design projects using digital and analog processes.

**(ACE 10) 311. Architectural Design: Ecological Context** (5 cr) Studio 12. Prereq: ARCH 330, 310. Parallel: ARCH 360.

Fundamentals of architectural design. Continuation of problems concerned with human needs. Intermediate projects emphasizing the influence of natural forces within a specific geographical context. Site analysis including topography, landscape, orientation, and climate.

**331. Architectural Structures I** (CNST 331/(UNO) 3310) (3 cr) Studio 3. Prereq: ENGM 220/(UNO) 2200 and ENGM 324/(UNO) EMEC 3240.

Analysis and design of structural members in wood, steel, and concrete. Slabs, joists, beams, girders, and connections. Comparative building designs.

**332. Architectural Structures II** (CNST 332/(UNO) 3320) (3 cr) Studio. Prereq: ARCH/CNST 331/(UNO) CNST 3310.

Analysis and design of structural members in wood, steel, and concrete. Columns, walls, footings, soils, trusses, and construction. Comparative building designs.

**333. Building Environmental Technical Systems I** (CNST 305) (3 cr) (UNL) Lec 3. Prereq: PHYS 151 or permission.

Characteristics and performance of buildings with respect to thermal and psychrometric environment in buildings related to human comfort, heat gain/heat loss, ventilation, natural energy systems and sustainable design principles, and plumbing and life safety systems in the Built environment.

**334. Building Environmental Technical Systems II** (IDES 334) (3 cr) (UNL) Lec 3. Prereq: Admission to the third year architecture or Interior Design Program.

Architectural lighting and acoustical systems of buildings for non-engineers. Fundamentals of light and vision, lighting equipment, requirements for building lighting, fundamentals of sound and hearing, room acoustics, noise control, and basic design methods for both architectural lighting and acoustics.

**[IS] 340/540. Architectural History and Theory I** (3 cr) Lec 3.

Prereq: For undergraduate: Admission to the BSD program or permission. For student in the professional program: Admission to the Professional Program in Architecture or permission.

Selected aspects of the history and theory of fifteenth through eighteenth century architecture emphasizing the architect as a creative personality.

**341. Architectural Theory** (3 cr) Lec 3. Prereq: ARCH 240 and 241. *ARCH 341 is organized thematically.*

Architectural theory. Written accounts on what architecture should be and why. Compare a number of positions on particular issues that have persisted through the history of architectural theory.

**[ES][IS] 347/547. African Architecture** (AHIS 366, ETHN 366) (3 cr) Prereq: Sophomore standing.

Survey of the architectural traditions of the African continent, from pre-historic times to the present day. Buildings—famous and typical—theories, and approaches that are appropriate to the specific cultural environments.

**350. Design Process** (3 cr) Lec 3. Prereq: Admission to the BSD program and parallel ARCH 310.

Introduction to the processes, methods, critical and analytical techniques used to develop architectural projects and incorporate ideas into the design proposals. Procedures such as heuristic devices diagramming, emergent digital process, normative and exploratory methods. Case studies of the processes used and the results achieved in recent exemplary projects.

**360. Site Context Issues** (3 cr) Lec 1, lab 4. Prereq: ARCH 310, 350, or permission. Parallel: ARCH 311 or permission.

Investigation of the interrelationship among the physical context as created by nature and humanity, the various design professions concerned with site development and architectural ideas. Site analysis, selection, and development project done in conjunction with the linked studio, along with practical exercises form the basis of the lab experience.

**397. Selected Topics in Architecture** (1-6 cr) Prereq: Permission. Group investigation of a topic in architecture originated by the instructor.

**398. Problems in Architecture** (1-6 cr) Prereq: Permission. Individual investigation of a topic in architecture.

**(ACE 10) 410. Architectural Design: Tectonics** (5 cr) Studio 12. Prereq: ARCH 311, 360. Parallel: ARCH 430.

Fundamentals of architectural design. Continuation of problems concerned with human needs. Intermediate projects that emphasize technological considerations as form determinants. Structure, material, equipment, and construction.

**(ACE 10) 411. Architectural Design: Urbanism Studio** (5 cr) Studio 12. Prereq: ARCH 410 and 430; parallel ARCH 461.

Intermediate architectural design studio focusing on the urban environment and processes of urban design. Urban spaces and their organization versus built form.

**417/617/817. Product Design** (IDES 417) (3 cr) Prereq: Junior standing or permission.

Practical investigation in the use of materials and their fabrication process with emphasis on wood, plastic, and steel. Generate a design from conception to a finished product.

**418/518/818. Fabrication and Construction Team** (1-6 cr, max 6) Lec, lab. Prereq: Permission.

The shifting relationship between conceiving and making through practical, collaborative experience with actual design-construct projects, play a role in all aspects of research, design and construction of the commission.

**423. Computer Applications in Environmental Development** (3 cr) Prereq: Admission to the BSD program; ARCH 223.

Survey and application of new methods of dealing with complex environmental problems using computer technology. Major emphasis in computer graphics as used by designers and planners, as well as simulation and model building.

**424/524/824. Advanced Architectural Drawing** (2 cr) Studio. Prereq: For undergraduate: Admission to the BSD program or permission. For student in the professional program: Admission to the Professional Program in Architecture or permission. Advanced work in architectural drawing. Discourse about various drawing problems encountered in design process and practice.

**425/525/825. Computer-aided Drawing/Design** (CADD) in Architecture (3 cr) Lec 1, studio 2. Prereq: Permission.

Application of advanced CADD systems, technology, and techniques to the solution of problems in architecture. Use of sophisticated software and hardware in drawing management

with emphasis on its application to design, graphics, and professional drawings. Potentials and limitations of CADD systems in the professional practice of architecture.

**430. Technological Integration** (3 cr) Lec 1, lab 4. Prereq: ARCH 311, 332, 333, 334, 460. Parallel: ARCH 410.

Integrative study of structural, building technology, and environmental technology systems in a building within the context of ARCH 410: Architectural Design, Tectonics. Emphasis on the role structural, mechanical systems, and assemblages play in the evolution of an architectural design project. Students illustrate an understanding of the principles which underlie each of the technical systems and demonstrate the ability to apply those principles to the design project.

**435/535/835. Advanced Lighting Design** (3 cr) Lec 1, lab 4. Prereq: ARCH 333 or IDES 335 or by permission.

Translation of physical measurements of sensory stimuli into architectural-spatial relationships with respect to artificial and natural illumination; advanced lighting theories and techniques through lecture, discussion, simulation, and direct application to spatial design/development.

**437/537/837. Architectural Acoustics** (2 cr) Lec 2. Prereq: ARCH 310, 411, 333.

Advanced acoustic design. Translation of physical measurements of sensory stimuli into architectural-spatial relationships with respect to internally and externally generated sound.

**438. Interior Construction** (3 cr) Lec 1, lab 5. Prereq: Admission to the BSD or Interior Design Program.

Development of a set of construction documents for a small residential or commercial space. Set includes demolition plans, reflected ceiling plans, power and communication plans, finish plans, elevations, sections, details and schedules.

**[ES] 441/541/841. Architectural History and Theory II** (3 cr) Lec 3. Prereq: Admission to the BSD Program or permission.

Selected aspects of the history and theory of nineteenth and early twentieth century architecture emphasizing the intellectual impact and material expression of cultural change.

**[ES][IS] 442/542/842. Contemporary Architecture** (3 cr) Lec 3. Prereq: ARCH 441 or permission.

Selected aspects of contemporary architectural theory and design from the mid-twentieth century to the present emphasizing the diversity of current thought and practice.

**446/546/846. Theory and Criticism in Architecture Since 1945** (3 cr) Lec 3. Prereq: ARCH 341 or permission. ARCH 446/546/846 is 'Letter grade only.'

Theory and criticism in architecture since 1945 as related to contemporary American society and culture, with reference to those paralleled in other humanities disciplines, including arts, linguistics, literary criticism, and philosophy.

**448/548/848. Architecture of the Great Plains** (3 cr) Lec 3. Prereq: Admission into Third Year or permission.

Selected aspects of the history of architecture on the Great Plains with emphasis on the architecture of Nebraska built during the nineteenth and twentieth centuries.

**450/550/850. Survey of Asian Architecture** (3 cr) Lec 3. Prereq: Senior or graduate standing.

Comparative study of the architecture of Asian cultures with emphasis on pre-eighteenth century India, China, and Japan.

**451/851. Latin American Architecture** (3 cr) Lec 3. Prereq: ARCH 441/541/841. ARCH 451/851 requires no previous study of Latin America.

Introduction to Latin American architecture. Twentieth century Latin American architecture. The two main factors that have shaped Latin American architecture: cultural context and ecological context. The environment (in a broad cultural frame) and architecture as a cultural artifact.

**456/556/856. Behavioral and Social Factors in Environmental Design** (IDES 456/856) (3 cr) (UNL) Lec 3. Prereq: Permission.

Survey of theory, methods, research, and findings from the social and behavioral sciences as they relate to architectural design, interior design and regional and community planning. Application of principles to the development of architectural and interiors programs and designs and to the planning process.

**457/557/857. Housing Issues in Contemporary Society** (2 cr) Prereq: Admission into Third Year or permission.

Survey of social, psychological, political and economic research regarding housing in today's global economy. Focuses on how

the research can impact the practice of design at the interior and architectural as well as the community and regional planning scale.

**458/558/858. The Changing Workplace** (IDES 458/858) (3 cr) (UNL) Lec 3.

Survey and integration of theory, methods, research and findings from the social, behavioral, and managerial sciences as they relate to the design of work environments. Factors effecting change in the contemporary workplace.

**461. Urbanism** (3 cr) Lec 3. Prereq: ARCH 430 and 410; parallel ARCH 411.

Comprehensive overview of significant issues of contemporary urbanism and the processes of urban design. Experiential nature of cities, role of public policy, ideology, genesis and development of urban form and space.

**463/563/863. Architectural Preservation** (3 cr) Lec.

Introduction to the principles, processes, and practice of architectural preservation and the conservation of historic districts.

**464. Urban Structure I** (2 cr) Lec 2. Prereq: ARCH 310.

Introduction to the theory and mechanisms of urban planning and design directed at the resolution of selected urban problems such as growth dynamics, urban decay, socialization, and the psychological perception of urban structure.

**466/566/866. Community Design Center** (3-6 cr) Prereq: Permission.

Community-oriented design studio. The design process and its relationship to the environmental development process.

**467/567/867. Planting Design** (HORT, LARC 467) (4 cr I) Lec 4. Prereq: HORT/LARC/NRES 212; ARCH 210 or HORT/LARC 266.

For course description, see HORT 467.

**(ACE 10) [IS] 469. Senior Landscape Design** (HORT 469) (4 cr II) Studio 8. Prereq: HORT 341 and/or permission.

For course description, see HORT 469.

**[IS] 481/581/881. Women in Design** (IDES 481) (3 cr) Prereq: Admission to the BSD program or permission.

Intensive study of particular historical and contemporary contributions by women to the design professions related to the built environment. Evaluation of design work by and about women seen in their aesthetic and intellectual context. Examinations of the roles and values of women in design and their impact on the assumptions and issues currently held by the profession.

**482/582/882. Advanced Color Theory** (IDES 482/882) (3 cr) (UNL) Lec 3. Prereq: Admission to the third year in architecture or Interior Design Program; or permission.

Advanced color theories and their application to the Built environment.

**484/584/884. Case Study in the Study and Practice of Architecture** (3 cr) Lec 3. Prereq: Permission.

A group investigation into a recently completed professional building project. Methodology as prescribed by the American Institute of Architects "Case Study Work Group," and the "Large Firm Roundtable-The Educator/Practitioner Net."

**488. Senior Inspection Trip** (1 cr) Prereq: Senior standing. Pass/No Pass only.

Group inspection trip to places of professional interest.

**491. Seminar in Architecture** (2-3 cr) Prereq: Permission.

Selective studies of contemporary problems in design and practice.

**497/597/697/897. Selected Topics in Architecture** (1-6 cr, max 24) Prereq: Permission.

Group investigation of a topic in architecture originated by the instructor.

**498/598/898. Problems in Architecture** (1-6 cr, max 9) Prereq: Permission.

Individual investigation of a topic in architecture.

**510/810. Architectural Design: Core Studio** (5 cr) Studio 12.

Prereq: Graduate standing.

**511/911. Architectural Design: Environmental Issues** (5 cr) Studio 12.

Prereq: ARCH 850.

**530/830. Advanced Elements of Building Construction** (3 cr) Prereq: Admission to the fifth year or permission. Common building systems and their components. The vocabulary of construction, in both verbal and graphic terms, that can be immediately applied in the design studio.

**532/\*832. Production Drawings** (3 cr) Lec, lab. Development of production drawings for a small building. Plans, elevations, sections, and details developed through a process of exploration and research.

**545/845. Architecture, Society and Culture I** (3 cr) Lec. Prereq: Admission to the fifth year, ARCH 441/541/841 and 442/542/842, or permission.

**546/846. Theory and Criticism in Architecture Since 1945** (3 cr) Prereq: ARCH 542/842 or permission.

**562/862. Urban Form Typology** (3 cr) Prereq: Admission to the fifth year. *Lectures by faculty, guest speakers and seminar presentations by students.*

Core aspects of the architecture of cities. Reviews current typological theories and undertake descriptive, normative and critical studies of urban examples according to ecological and anthropological criteria.

**564/864. Urban Design I** (3 cr) Lec 3. Prereq: Permission.

**613/913. Architectural Design: Terminal Project Studio I** (6 cr) Studio. Prereq: ARCH 510/810 and 511/811, submission of statement of intent and a contract with a faculty mentor.

**614/914. Architectural Design: Terminal Project Studio II** (6 cr) Studio. Prereq: ARCH 613/913.

**680/880. Professional Practice** (3 cr) Lec 3.

**691/991. Seminar in Architecture** (2-3 cr) Prereq: ARCH 850 and permission.

**692/992. Seminar in Architecture** (2-3 cr) Prereq: ARCH 850 and permission.

**695/895. Internship** (1-6 cr) Professional office 40 hours/week. Prereq: ARCH 850 and permission.

**833. Architectural Systems Design II** (3 cr) Prereq: ARCH 830.

**860. Environmental Survey and Analysis** (CRPL 860) (3 cr) Lec 3. Prereq: Permission.

**861. Studies in Environmental Design** (3 cr) Prereq: ARCH 860.

**865. Urban Design II** (3 cr) Prereq: ARCH 864.

**883. Architectural Programming** (3 cr) Lec 3. Prereq: ARCH 850.

**896. Problems in Programming** (3 cr) Prereq: ARCH 810, 812, and 911 and approval of the faculty.

**899. Masters Thesis** (6 cr) Prereq: ARCH 896; any two of ARCH 812, 911, or 913.

Refer to the Graduate Bulletin for 900-level courses.

## Community and Regional Planning (CRPL)

**[IS] 300. The Community and the Future** (3 cr)

Images and implications of the community of the future. Envisioning the future, the nature of the community, community development and planning, strategic planning, futuristic theory and practice, paradigms and dilemmas, sustainable development, neo-traditional town planning, the new urbanism, and sustainable design. Multi-media presentations. Exploration, description, and explanation of the emerging imperatives affecting our homes and towns. Critical thinking about global issues within local environmental, economic, and socio-cultural contexts.

**(ACE 8) 400/800. Introduction to Planning** (3 cr) Lec.

Field of community and regional planning introduced and studied in relation to the history of cities, urbanization, and regionalization. Origins and evolution of American urban and regional planning practice. The planning process as a response to social, political, physical, and economic factors is analyzed. Introduces the community comprehensive planning process, plan implementation, and functional areas of planning.

**415/815. Housing, Renewal, and Development** (3 cr) Lec 3. Pre-req or parallel: CRPL 400/800.

Comprehensive analysis of public policies and programs for housing, urban renewal, and large-scale development and a consideration of their social, political, and environmental implications at the neighborhood, community, and regional scale. Formulation of housing and renewal policy and programs as a part of the community and regional planning process and related regulation and stimulation efforts, and to the design, construction, and marketing processes as they affect or are affected by public housing policies and the private sector. The methodology, processes, results, problems, and changing nature of the federal urban renewal program considered in detail.

**420/820. Grant Writing and Fund-raising** (3 cr) Prereq: Senior standing.

Introduces and familiarizes the student with the theory and practice of fund-raising and grant writing. Overview of the principles and concepts of philanthropy and the basic issues of fund-raising. Skills of writing a case statement, conducting a donor search and analysis, designing a fund-raising vehicle, and writing grant applications in "real world" situations.

**431/831. Computer Graphics Applications in Physical and Environmental Planning** (3 cr)

Opportunity for acquiring skill and working experience in the use of microcomputer- and minicomputer-based CADD systems as applied to physical and environmental planning, urban design, and computer cartography. Productive techniques of using CADD equipment and software to perform site planning, mapping, site analysis, and site selection tasks.

**450/850. Social Planning and Policy** (3 cr) Lec/seminar. Prereq: Senior standing.

Social planning and policy introduced and studied through a historical presentation of US social welfare policy, an exploration of models and methods utilized by government and human service agencies in the planning of social programs, and an analysis of contemporary social policy issues. Includes privatization, universalism vs. selectivity, race and ethnicity, homelessness, and poverty.

**460/860. Planning and Design in the Built Environment** (3 cr) Lec/seminar. Prereq: Senior standing.

Introduces principles and practices of planning, design, and implementation for multiple-structure built environments. Influences of physical, social, environmental, and economic factors upon planned and designed environments. Various planning and design methods, processes, and products introduced. Means of project implementation explored, and examples of existing and proposed projects studied.

**470/870. Environmental Planning and Policy** (3 cr) Lec/seminar. Prereq: Senior standing.

Introduces environmental planning, including its history and origins. Major environmental issues throughout the world, and the roles of planning in addressing these problems. Environmental planning process and environmental legislation.

**(ACE 10) 475/875. Water Quality Strategy** (AGRO, CIVE, GEOL, MSYM, NRES, POLS, SOCI 475/875; SOIL, WATS 475) (3 cr) Lec 3. Prereq: Senior standing or permission.

For course description, see AGRO 475/875.

**477/877. Recreation and Park Planning** (3 cr) Prereq: Senior standing.

Exploration, analysis, and application of recreation and park planning principles and practices. An understanding of park planning at the local, regional, and national level developed.

**480/880. Economic Development Planning** (3 cr) Prereq: Senior standing.

Introduces the theory and principles of economic development planning. Concepts, analytical approaches, and theories of economic growth of local communities introduced. Consideration of local economic development plans for small communities. International perspectives of economic development.

**481/881. Planning In Developing Countries** (3 cr) Prereq: Senior standing.

Introduction to urbanization and planning in developing countries. Examines the social, economic, and spatial organization of Third World cities, including international trends, theories of development, life in these cities, and how the people and governments of Third World countries attempt to cope with their problems and plan for a better future.

**[IS] 489/889. Urbanization of Rural Landscapes** (AGRO/HORT 489/889) (3 cr II) Lec 3. Prereq: Senior standing, graduate standing, or permission of instructor.

For course description, see AGRO 489/889.

**495/895. Selected Topics in Community and Regional Planning** (1-9 cr, max 9) Prereq: Senior standing.

Aspects of community and regional planning not covered elsewhere in the curriculum are presented as the need arises.

**496/896. Special Problems in Community and Regional Planning** (1-6 cr, max 9) Prereq: Senior standing and permission. Individual or group investigations of problems relating to community and regional planning.

**802. Planning Theory** (3 cr) Lec/sem. Prereq or parallel: CRPL 800.

**804. Legal Aspects of Planning** (3 cr) Lec/sem Prereq or parallel: CRPL 800 or permission.

**810. Qualitative Techniques for Planners** (3 cr)

**830. Introduction to Computers in Planning** (3 cr) Lec/lab. Prereq: Community and regional planning major or permission.

**840. Planning Methods and Analysis** (3 cr) Lec/lab. Prereq: Principles of statistics course; CRPL 800; CRPL 830; community and regional planning major.

**872. Environmental Survey and Analysis** (ARCH 560/860) (3 cr)

**890. Professional Seminar** (1 cr) Sem. Prereq: Community and regional planning major.

**897. Planning Internship** (1-4 cr) Prereq: Community and regional planning major and permission.

**898. Professional Project** (6 cr) Prereq: MCRP degree candidate and permission of department graduate committee.

**899. Masters Thesis** (6 cr)

Refer to the Graduate Bulletin for 900-level courses.

## Interior Design (IDES)

**[ES] 106. Introduction to Design** (ARCH 106) (3 cr) (UNL, UNO) Lec 3.

For course description, see ARCH 106.

**(ACE 2) 140A. Visual Literacy Lab: Analysis and/or Composition** (ARCH, ARTP, JGEN, LARC, TXCD 140A) (2 cr) Lab 6.

Prereq: ARTP: Art major or candidate for teaching endorsement in art. ARCH: Admission to the College of Architecture. IDES: Admission to the College of Architecture. JGEN: College of Journalism and Mass Communications major and 2.75 GPA. LARC: Admission to the College of Architecture. TXCD: Textiles, Clothing and Design major or minor.

For course description, see ARTP 140A.

**(ACE 2) 140B. Visual Literacy Lab: Perceptual Drawing**

(ARCH, ARTP, JGEN, TXCD 140B) (2 cr) Lab. Prereq: ARTP: Art major or candidate for teaching endorsement in art. ARCH: Admission to the College of Architecture. IDES: Admission to the College of Architecture. JGEN: College of Journalism and Mass Communications major and 2.75 GPA. TXCD: Textiles, Clothing and Design major or minor.

For course description, see ARTP 140B.

**(ACE 2) 141A. Visual Literacy Lab: Color** (ARCH, ARTP, JGEN, LARC, TXCD 141A) (2 cr) Lab 6. Prereq: ARTP: Art major or candidate for teaching endorsement in art. ARCH: Admission to the College of Architecture. IDES: Admission to the College of Architecture. JGEN: College of Journalism and Mass Communications major and 2.75 GPA. LARC: Admission to the College of Architecture. TXCD: Textiles, Clothing and Design major or minor.

For course description, see ARTP 141A.

**(ACE 2) 141B. Visual Literacy Lab: Speculative Drawing**

(ARCH, ARTP, JGEN, LARC, TXCD 141B) (2 cr) Lab 6. Prereq: ARTP: Art major or candidate for teaching endorsement in art. ARCH: Admission to the College of Architecture. IDES: Admission to the College of Architecture. JGEN: College of Journalism and Mass Communications major and 2.75 GPA. LARC: Admission to the College of Architecture. TXCD: Textiles, Clothing and Design major or minor.

For course description, see ARTP 141B.

(ACE 2) **142. Visual and Aural Literacy** (ARCH, ARTP, JOUR, LARC, TXCD 142) (2 cr) Lec 2, lab 2. Prereq: ARTP: Art major or candidate for teaching endorsement in art. ARCH: Admission to the College of Architecture. IDES: Admission to the College of Architecture. JOUR: College of Journalism and Mass Communications major and 2.75 GPA. LARC: Admission to the College of Architecture. TXCD: Textiles, Clothing and Design major or minor. For course description, see JOUR 142.

(ACE 2) **143. Visual Literacy: Art and Design** (ARCH, ARTP, JGEN, LARC, TXCD 143) (2 cr) Lec 2. Prereq: ARTP: Art major or candidate for teaching endorsement in art. ARCH: Admission to the College of Architecture. IDES: Admission to the College of Architecture. JGEN: College of Journalism and Mass Communications major and 2.75 GPA. LARC: Admission to the College of Architecture. TXCD: Textiles, Clothing and Design major or minor. For course description, see ARTP 143.

**210. Elements of Architectural Design I** (ARCH 210, LARC 210) (3 cr) (UNL, UNO) Lec 1, lab 4. Prereq: ARCH/ARTP/JGEN/IDES/LARC/TXCD 140A, 140B, 141A, 141B, and 143; parallel ARCH/IDES/LARC 220. For course description, see ARCH 210.

**211. Elements of Architectural Design II** (ARCH 211) (UNL, UNO) (3 cr) Lec 1, studio 6. Prereq: ARCH 210 and 220, or permission. Parallel: IDES 221. For course description, see ARCH 211.

**220. Graphic Communication I** (ARCH 220 LARC 220) (2 cr) Lec 2, lab 1. Prereq: ARCH/ARTP/JGEN/IDES/LARC/TXCD 140A, 140B, 141A, 141B, and 143; parallel ARCH/IDES/LARC 210. For course description, see ARCH 220.

**221. Graphic Communication II** (ARCH 221) (2 cr) Lec 3, lab 1. Prereq: ARCH/IDES 210 and 220; parallel ARCH 211. For course description, see ARCH 221.

**223. Computer Applications in Design** (ARCH 223, LARC 223) (3 cr) (UNL, UNO) Lec 1, lab 4. For course description, see ARCH 223.

**300. Interior Design Materials** (3 cr) (UNL) Lec 3. Prereq: Formal acceptance into the Interior Design Program or permission. Parallel: IDES 350. In-depth study of the materials with which an interior designer is concerned: floor coverings, wall coverings, lighting and lighting fixtures, window treatments, and accessories.

**301. Material Applications** (3 cr) Lec 3. Prereq: IDES 300; formal acceptance into the interior design program; parallel IDES 350. Structure and surface materials for interior designers and their role in the design process. Conceptual application of materials and the affects that they make in interior environments.

**318. Professional Practices for Interior Design** (3 cr) (UNL) Lec 3. Prereq: IDES 300. Parallel: IDES 351. Legal, business, and ethical procedures and practices of interior design.

**334. Building Environmental Technical Systems II** (ARCH 334) (3 cr) (UNL) Lec 3. Prereq: Admission to the third year architecture or Interior Design Program. For course description, see ARCH 334.

**335. Lighting Design** (3 cr) Prereq: Acceptance into Third Year architecture or Interior Design Program, or permission. Lighting in residential and commercial use as it affects color, psychology, and use of space. Application, specification and evaluation of various systems.

**[IS] 340. Historic Interiors I** (3 cr) (UNL) Lec 3. Prereq: Junior standing, AHIS 101 or 102. History and development of European interiors and furnishings from the ancient world through the French and English styles of the early nineteenth century.

**350. Interior Design Studio 1** (5 cr) (UNL) Studio 12. Prereq: Formal acceptance into the Interior Design Program by faculty. Parallel: IDES 300. Emphasis on the design process in the development of problem solving skills related to interior design and the proximate environment, such as interior space planning, programming, and generation of design concept and design alternatives.

**351. Interior Design Studio 2** (5 cr) (UNL) Studio 12. Prereq: IDES 300 and 350. Parallel: IDES 318. Intermediate projects in creative problem solving with emphasis on programming, spatial analysis, and specifications for commercial interiors.

**417. Product Design** (ARCH 417/617) (3 cr) Prereq: Junior standing or permission. For course description, see ARCH 417/617.

**426/826. Design in an Age of Digital Environments** (3 cr) Lec 3. Prereq: Admission to the BSD program. Digital environments and their implications for design. Types of digital environments: intelligent reality, real virtual reality, and neural reality. These environments have qualities which provide unique challenges for their design: intelligence, temporal sequencing, and interactivity. Alternative design processes for handling these special qualities.

**433. Interior Construction Documents** (3 cr) Prereq: Admission to the professional program in interior design or permission.

Basic set of construction documents for a small residential or commercial space. Set includes demolition, partition, and reflected ceiling plans, power and communication plans, finish and furnishings plans, interior elevations, sections, details and schedules. Expression of design intent as construction documents is reinforced in lecture, structured studio experiences, and site visits.

(ACE 5, 7) [ES][IS] **445/845. History of Furniture** (3 cr) (UNL) Lec 3. Prereq: Admission to the professional program in interior design or architecture, or permission.

History and development of interiors and furnishings from prehistoric times to the present day, emphasizing the eighteenth, nineteenth, and twentieth centuries. Interiors and furnishings focused on the West yet considered within a global context.

**450/850. Interior Design Studio 3** (5 cr) (UNL) Studio 12. Prereq: IDES 318 and 351.

Advanced application of the design process with emphasis on complex residential and commercial problems, including systems design, and individual professional objectives.

(ACE 10) **451/851. Interior Design Studio 4** (5 cr) (UNL) Studio 12. Prereq: IDES 450, prior or concurrent work experience in interior design or related field.

Design of multipurpose interior (contract and residential) spaces with complete drawings and specifications. Individual and team problems.

**456/856. Behavioral and Social Factors in Environmental Design** (ARCH 456/556/856) (3 cr) (UNL) Lec 3. Prereq: Permission.

For course description, see ARCH 456/556/856.

**458/858. The Changing Workplace** (ARCH 458/558/858) (3 cr) (UNL) Lec 3.

For course description, see ARCH 458/558/858.

**460/860. Preservation and Conservation of Historic Interiors** (2 cr) (UNL) Lec 2. Prereq: IDES 340.

Restoration, conservation, renovation, or adaptive reuse of historic interiors. Energy feasibility for the older structure.

[IS] **481. Women in Design** (ARCH 481/581/881) (3 cr) Prereq: Admission to the BSD program or permission.

For course description, see ARCH 481/581/881.

**482/882. Advanced Color Theory** (ARCH 482/582/882) (3 cr) (UNL) Lec 3. Prereq: Admission to the third year in architecture or Interior Design Program; or permission.

For course description, see ARCH 482/582/882.

**483/883. Domesticity and Power in the Colonial World** (3 cr) (UNL) Lec 3. Prereq: Permission.

Re-examines the relationship between architecture, politics, and ethical values by looking at colonial architecture as a world-wide phenomenon. The colonial domestic sphere is viewed as a counterpoint to the public arena.

[IS] **484/884. Material Culture: The Social Life of Things** (3 cr) (UNL) Lec 3. Prereq: Permission.

The theories and practices of material culture. History and interior design—and the broad category of humanity itself—through the lens of material objects.

**486/886. Evolving Issues in Interior Design** (3 cr) Lec 3. Prereq: Admission to the BSD program. Contemporary and controversial issues. Nuances of the field and practice of interior design and its relationship to the allied design disciplines.

**497. Selected Topics in Interior Design** (1-6 cr, max 6) Prereq: Permission. Group investigation of a topic in interior design originated by instructor.

**498. Problems in Interior Design** (1-6 cr, max 6) Ind. Prereq: Permission. Individual investigation of a topic in interior design.

\***812. Sociopsychological Aspects of Interiors** (3 cr) Lec 3. Prereq: 9 hrs social sciences and 9 hrs interior design or permission.

## Landscape Architecture (LARC)

(ACE 2) **140A. Visual Literacy Lab: Analysis and/or Composition** (ARCH, ARTP, IDES, JGEN, TXCD 140A) (2 cr) Lab 6. Prereq: ARTP: Art major or candidate for teaching endorsement in art. ARCH: Admission to the College of Architecture. IDES: Admission to the College of Journalism and Mass Communications major and 2.75 GPA. LARC: Admission to the College of Architecture. TXCD: Textiles, Clothing and Design major or minor. For course description, see ARTP 140A.

(ACE 2) **140B. Visual Literacy Lab: Perceptual Drawing** (ARCH, ARTP, IDES, JGEN, TXCD 140B) (2 cr) Lab 6. Prereq: ARTP: Art major or candidate for teaching endorsement in art. ARCH: Admission to the College of Architecture. IDES: Admission to the College of Architecture. JGEN: College of Journalism and Mass Communications major and 2.75 GPA. LARC: Admission to the College of Architecture. TXCD: Textiles, Clothing and Design major or minor. For course description, see ARTP 140B.

(ACE 2) **141A. Visual Literacy Lab: Color** (ARCH, ARTP, IDES, JGEN, TXCD 141A) (2 cr) Lab 6. Prereq: ARTP: Art major or candidate for teaching endorsement in art. ARCH: Admission to the College of Architecture. IDES: Admission to the College of Architecture. JGEN: College of Journalism and Mass Communications major and 2.75 GPA. LARC: Admission to the College of Architecture. TXCD: Textiles, Clothing and Design major or minor. For course description, see ARTP 141A.

(ACE 2) **141B. Visual Literacy Lab: Speculative Drawing** (ARCH, ARTP, IDES, JGEN, TXCD 141B) (2 cr) Lab 6. Prereq: ARTP: Art major or candidate for teaching endorsement in art. ARCH: Admission to the College of Architecture. IDES: Admission to the College of Architecture. JGEN: College of Journalism and Mass Communications major and 2.75 GPA. LARC: Admission to the College of Architecture. TXCD: Textiles, Clothing and Design major or minor. For course description, see ARTP 141B.

(ACE 2) **142. Visual and Aural Literacy** (ARCH, ARTP, IDES, JOUR, TXCD 142) (2 cr) Lec 2, lab 2. Prereq: ARTP: Art major or candidate for teaching endorsement in art. ARCH: Admission to the College of Architecture. IDES: Admission to the College of Architecture. JOUR: College of Journalism and Mass Communications major and 2.75 GPA. LARC: Admission to the College of Architecture. TXCD: Textiles, Clothing and Design major or minor. For course description, see JOUR 142.

(ACE 2) **143. Visual Literacy: Art and Design** (ARCH, ARTP, IDES, JGEN, TXCD 143) (2 cr) Lec 2. Prereq: ARTP: Art major or candidate for teaching endorsement in art. ARCH: Admission to the College of Architecture. IDES: Admission to the College of Architecture. JGEN: College of Journalism and Mass Communications major and 2.75 GPA. LARC: Admission to the College of Architecture. TXCD: Textiles, Clothing and Design major or minor. For course description, see ARTP 143.

(ACE 7, 9) [ES][IS] **200. Landscape and Environmental Appreciation** (HORT, GEOG 200) (3 cr II) Lec 2, rct 1. For course description, see HORT 200.

**210. Elements of Architectural Design I** (ARCH 210, IDES 210) (3 cr) (UNL, UNO) Lec 1, lab 4. Prereq: ARCH/ARTP/JGEN/IDES/LARC/TXCD 140A, 140B, 141A, 141B, and 143; parallel ARCH/IDES/LARC 220. For course description, see ARCH 210.

**212. Landscape Plants I** (HORT, NRES 212) (3 cr I) Lec 2, rct 1. Prereq: HORT 130. Requires Saturday off-campus field trips. For course description, see HORT 212.

**213. Landscape Plants II** (HORT, NRES 213) (3 cr II) Lec 2, lab 2. Prereq: HORT/LARC/NRES 212. HORT/LARC/NRES 213 is a continuation of HORT/LARC/NRES 212. For course description, see HORT 213.

**[ES] 216. Introduction to Landscape Design** (HORT 266) (2 cr II) Lec 1, rct 2. Prereq: HORT/GEOG/LARC 200 or HORT 265; HORT/LARC/NRES 212 or equivalent; ARCH/IDES/LARC 220. HORT 267/LARC 217 requires individual and team projects, studio critiques, presentations, and may require off-campus site visits outside of scheduled class time. For course description, see HORT 266.

**[ES] 217. Introduction to Landscape Design Studio** (HORT 267) (2 cr II) Stu 2. Prereq: HORT/GEOG/LARC 200 or HORT 265; HORT/LARC/NRES 212 or equivalent; ARCH/IDES/LARC 220. HORT 267/LARC 217 requires individual and team projects, studio critiques, presentations, and may require off-campus site visits outside of scheduled class time. For course description, see HORT 267.

**220. Graphic Communication I** (ARCH, IDES 220) (2 cr) Lec 2, lab 1. Prereq: ARCH/ARTP/JGEN/IDES/LARC/TXCD 140A, 140B, 141A, 141B, and 143; parallel ARCH/IDES/LARC 210. For course description, see ARCH 220.

**223. Computer Applications in Design** (ARCH, IDES 223) (3 cr) (UNL, UNO) Lec 1, lab 4. For course description, see ARCH 223.

**241. History of Landscape Architecture** (3 cr) Lec 3. Prereq: Sophomore standing and permission. Survey of the development of landscape design from pre-history to the present day.

**330. Landscape Architecture Technology I** (3 cr) Lec 2, lab 2. Prereq: Admission into 3rd year LARC. LARC 330 is 'Letter grade only'. Investigation and application of landscape architectural design theory and technology to aesthetic/functional landform manipulation and stormwater management.

**331. Landscape Architecture Technology II** (3 cr) Lec 2, lab 2. Prereq: LARC 330. LARC 331 is 'Letter grade only'. Investigation and application of landscape architectural design theory and technology to landscape utility/circulation systems, structures, site layout, materials, detailing, construction observation and implementation.

**389. Introduction to Landscape Ecology** (NRES 389) (3 cr) Lec 2, lab 2. Prereq: AGRO/HORT/SOIL 153 and BIOS/NRES 220, HORT/LARC/GEOG 200, CIVE 353/853/NRES 853, and CRPL 470 recommended. The history, principles, and concepts of landscape ecology. Use and application of landscape structure and function in the planning, the design, and management of human and natural landscapes.

**396/496/596. Problems in Landscape Architecture** (1-6 cr, max 24) Ind. Prereq: Permission. Grade only. Individual investigation of a topic in landscape architecture.

**453. Urban Soil Properties and Management** (AGRO, HORT, SOIL 453) (3 cr I) Lec 3. Prereq: AGRO/HORT/SOIL 153. For course description, see HORT 453.

**467. Planting Design** (HORT 467, ARCH 467/567/867) (4 cr I) Lec 4. Prereq: HORT/LARC/NRES 212; ARCH 210 or HORT/LARC 266. For course description, see HORT 467.

**497/597. Selected Topics in Landscape Architecture** (1-6 cr, max 24) Stu. Prereq: Permission. Group investigation of a topic in landscape architecture.

**498/598. Topics in Landscape Architecture** (HORT 498/898) (1 cr I) Lec 1. Prereq: Senior standing and permission. For course description, see HORT 498/898.





# College of Arts and Sciences

**David C. Manderscheid**, Ph.D., Dean and Professor of Mathematics

**Jessica Coope**, Ph.D., Associate Dean for Academic Services and Associate Professor of History

**Amy Goodburn**, Ph.D., Associate Dean for Faculty and Professor of English

**Gregory Snow**, Ph.D., Associate Dean for Research and Professor of Physics and Astronomy

## About the College

For additional information or questions, contact:

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107 Oldfather Hall  
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402/472-4190

## Mission and Goals

The College's mission is:

- To educate undergraduate students of the College of Arts and Sciences to a high level of competence in their major fields through instruction that integrates formal course work with experience in research and creative activity.
- To advance knowledge through research and creative activity that are national and international in stature.
- To provide all undergraduate students with a range of knowledge and a broad intellectual experience that can form the basis for critical and imaginative thinking, thereby enabling them to become tolerant and responsible members of a global society.

- To provide undergraduate and graduate students across the campus with courses in the arts, humanities, social sciences, and sciences to meet their academic needs in their major programs.
- To serve the university and community-at-large and provide educational leadership for the state and region.

The University of Nebraska started instruction in 1871 as the College of Ancient and Modern Literature, Mathematics and Natural Sciences, later to become the College of Arts and Sciences.

Now, as in the past, the College occupies the central position at the University of Nebraska—Lincoln and in the University of Nebraska system of higher education. It is the oldest, largest, and most diverse college in the University and state. The College, encompassing a comprehensive range of academic disciplines, comprises more than seventeen departments, schools, institutes, and centers with approximately 370 permanent faculty, 4,500 undergraduate majors and 1,200 graduate students. Virtually all UNL undergraduates take courses in the College. The College offers two undergraduate degrees (BA and BS) involving more than 50 major and minor programs in individual departments, interdisciplinary areas of the humanities, social sciences, and sciences, and 16 pre-professional programs (like pre-medicine, pre-law, and pre-dentistry).

Essential to the mission of the College of Arts and Sciences is the role of its faculty as scholar-teachers. The quality of their research and creative activities and their commitment to teaching enable them to expose their students to a wide range of knowledge and to the processes by which new knowledge is acquired.

## Committee Structure

**Executive.** Dean Manderscheid, chair; Professors Bleed, Kirby, Hansen, Kamil, Montes, Ritchie, Moore, Walker; Associate Deans Goodburn, Coope, Snow

**Student Academic Distinction, Awards, and Appeals.** Professors Adenwalla, Castro, Gruhl, Harshman, McCollough; Associate Dean Coope

**Assessment.** Professors Bilder, McMahan, Saskova-Pierce, V. Smith, Whitbeck, Zhang; Associate Dean Snow; SAB representative

**Curriculum and Advising.** Professors Snow (chair), Combs, J. Jones, Ledder, Lynch; Associate Dean Coope; SAB representatives

**Faculty Instructional Development.** Professors Athanassopoulos, A. Burnett, Knops, N. Smith, Stump; Associate Dean Snow; GSA representative; SAB representative

**Promotion and Tenure.** Dean Manderscheid, chair; Professors Draper, Hermiller, McKittrick, Wunder, Zera; Associate Dean Goodburn

## Affiliated Academic Centers, Facilities, Programs and Publications

### ANDRILL Science Management Office (SMO)

The ANDRILL Science Management Office (SMO), located in Room 126 of Bessey Hall, is a

center within the College of Arts and Sciences. The SMO leads the scientific research, education and outreach missions of the international ANDRILL (ANtarctic geological DRILLing) Program, which is a multinational collaboration comprised of more than 200 scientists, students, and educators from five nations (Germany, Italy, New Zealand, the United Kingdom and the United States) whose objective is to recover stratigraphic records from the Antarctic margin using drilling technology deployed from ice shelf and sea-ice platforms. The chief objective is to drill back in time to recover a history of paleoenvironmental changes that will guide our understanding of how fast, how large, and how frequent glacial and interglacial changes were in Antarctica. Future scenarios of global warming and climate change require guidance and constraint from past history that will reveal potential timing, frequency and site of future changes. ANDRILL maintains an extensive online education and outreach portal known as "Project Iceberg" and provides a field immersion experience for educators known as the ARISE (ANDRILL Research Immersion for Science Educators) Program. Further information can be found at: [www.andrill.org](http://www.andrill.org).

### Atomic, Molecular, Optical, and Plasma Physics Laboratory

The Department of Physics and Astronomy in the College of Arts and Sciences maintains a state-of-the-art laboratory for the study of atomic, molecular, optical, and plasma (AMOP) physics. The centerpiece of these facilities is the DIOCLES laser, recently installed in Behlen Laboratory. This laser has the highest combined power and repetition rate of any university laser system in the world; its peak power rating exceeds that of 1000 Hoover Dams. This apparatus will be used to study extremes of plasma density and temperature, and will have numerous optical and medical applications. Other laboratories in the group house facilities for studying collisions between electrons and atoms or molecules in combination with high-power lasers, and general laser systems for the studies of the foundations of quantum mechanics.

### Behlen Observatory

The Department of Physics and Astronomy in the College of Arts and Sciences operates Behlen Observatory, located 30 miles north of Lincoln. It is a modern astronomical research facility with a computer-controlled 0.76 meter telescope equipped with a solid state electronic camera. It is used for astronomical research by University faculty and students. Visit the Web site at [astro.unl.edu/observatory/](http://astro.unl.edu/observatory/).

### Bureau of Sociological Research

The Bureau of Sociological Research in the Department of Sociology in the College of Arts and Sciences works with students and faculty, state government agencies, state legislators, voluntary groups and other organizations to provide quality research services for the advancement of knowledge. It has conducted studies on local, state, regional, and national levels using telephone, mail, and personal interviewing techniques. Examples of such studies include an annual phone survey of UNL students regarding health behaviors and

issues facing students, an annual omnibus phone survey of Nebraskans, and a mail survey of school administrators and teachers regarding multi-cultural education programs, among others. The services offered by the Bureau range from advice on research project design to evaluation of data already collected, including survey construction, data entry, coding, and analysis. Further information can be found at [www.unl.edu/bosr/](http://www.unl.edu/bosr/).

### Cedar Point Biological Station

Cedar Point Biological Station (CPBS) is a field station operated by the School of Biological Sciences in the College of Arts and Sciences on Lake Ogallala in western Nebraska. Located two miles from Lake McConaughy, the state's largest body of water, the Station is situated in close proximity to a variety of aquatic and terrestrial habitats, including riparian forests, wet meadows, and prairies. CPBS is situated at the junction of four major grassland types including the Sandhills (one of the largest areas of relatively undisturbed prairie vegetation in the United States). Arapaho Prairie and Crescent Lake Wildlife Refuge are nearby and available for University teaching and research use. Also, the Valentine-Fort Niobrara National Wildlife Refuges are 100 miles north of the Station. CPBS offers students the opportunity to enroll in summer courses emphasizing field biology or to work as research assistants on various research projects. Further information can be found at [www.unl.edu/cedarp/](http://www.unl.edu/cedarp/).

### Center for Biotechnology

The Center for Biotechnology, funded in part through the Nebraska Research Initiative, coordinated UNL's resources to build upon recent advances in biotechnology spurred by the sequencing of plant, animal and human genomes, as well as bioinformatics, high-through-put proteomics and functional genomics. Its purpose is to promote the application of these advances to the solution of biological problems related to agriculture, health, food and the environment.

The Center acts as a catalyst for interdepartmental research initiatives, combining faculty from the College of Arts and Sciences and the Institute of Agriculture and Natural Resources. The primary focus of Faculty Associates of the Center is on cell and molecular biology, genetics, and microbiology.

An essential mission of the Center is to provide the faculty and local business communities access to state-of-the-art complex technologies, such as bioinformatics, proteomics, flow cytometry, confocal microscopy, and DNA sequencing, through its Core Research Facilities. Further information can be found at [www.biotech.unl.edu](http://www.biotech.unl.edu).

### Center for Environmental Health and Toxicology

The University of Nebraska Center for Environmental Health and Toxicology is housed in the College of Public Health and involves faculty from several departments at UNL, UNO and UNMC. Toxicology is the field of science that is concerned with determining what types of substances are harmful to living systems. This involves work by people in many specialities, including biology, chemistry, and medicine, among others. The Center for Environmental Health and Toxicology

provides research and training for students to help determine what types of environmental agents are harmful, to study how these substances produce adverse effects in the body, to create new methods for measuring these compounds, and to estimate the risks that these agents pose to humans, plants and animals. In addition, research is conducted on improving the health of the environment.

### Center for Great Plains Studies

The Center for Great Plains Studies is an interdisciplinary program administered in the College of Arts and Sciences and located at 1155 Q Street in the College of Arts and Sciences. The University of Nebraska Board of Regents chartered the Center in 1976 to foster the study of people and the environment in the sparsely populated Great Plains region. It remains the oldest interdisciplinary regional research and teaching center in the United States. The Center provides undergraduate students with a major or a minor in Great Plains Studies and graduate students with a specialization in Great Plains Studies at both the masters and doctoral levels through its association with fifteen participating departments at UNL. The Center's various activities include publishing two peer-reviewed journals, *Great Plains Quarterly* and *Great Plains Research*, publishing the undergraduate journal *Plains Song Review*, publishing *Journals of the Lewis and Clark Expedition* and *Encyclopedia of the Great Plains*, administering the Great Plains Art Museum, sponsoring the monthly Paul A. Olson Seminars in Great Plains Studies and other outreach programs, hosting an annual symposium that attracts scholars from all over the world, and presenting the annual Great Plains Distinguished Book Prize. The Center also refers students and the public to its Web page [www.unl.edu/plains](http://www.unl.edu/plains).

### Center for Plant Science Innovation

The goal of the UNL Center for Plant Science Innovation, formed in 1997, is to establish an interactive, critical mass of outstanding research scientists that study fundamental aspects of plant biology. The program is centered in the George W. Beadle Center for Genetics and Biomaterials Research and includes faculty from several academic units in both the College of Arts and Sciences and the Institute of Agriculture and Natural Resources. In addition to supporting "cutting edge" plant research, the program aids outstanding undergraduate, graduate and postdoctoral students and supports an annual plant science symposium and plant-related seminars. Further information can be found at [psiweb.unl.edu/](http://psiweb.unl.edu/).

### Center for Science, Mathematics and Computer Education

The Center for Science, Mathematics and Computer Education is a collaborative effort of the College of Arts and Sciences, the College of Education and Human Sciences and the Institute of Agriculture and Natural Resources. The Center's mission is to build partnerships among higher education, K12 education, and the interested public to improve the teaching and learning of math, science and technology K-16. The Center provides an infrastructure that promotes coordination and extends the capacity of faculty to develop educational outreach

activities, seek external funding, and improve undergraduate educations. Further information can be found at [www.unl.edu/scimath/](http://www.unl.edu/scimath/).

### Center on Children, Families, and the Law

As an interdisciplinary organization, the Center on Children, Families, and the Law works to stimulate interdepartmental and intercollegiate scholarship on children, families, and the law. It draws faculty from not only the College of Law and the Department of Psychology (College of Arts and Sciences) but also from the departments of sociology, educational psychology, and child, youth and family studies. Further information can be found at [ccfl.unl.edu](http://ccfl.unl.edu).

### Harris Center for Judaic Studies

The Norman and Bernice Harris Center for Judaic Studies was established by the Board of Regents in July, 1993. Drawn from numerous departments, the faculty in this interdisciplinary center teach and do research in all areas of Judaic Studies. The Center offers an undergraduate minor in Judaic Studies. The Center's goal is to educate undergraduates, Nebraskans, and the wider Great Plain's community about the nature and history of Jewish culture and peoples, Jewish contributions to other traditions, and the origins and effects of anti-Semitism and other forms of prejudice. Further information can be found at [www.unl.edu/judaic/](http://www.unl.edu/judaic/).

### Human Rights and Human Diversity Initiative

Human Rights and Human Diversity Initiative offers an undergraduate minor as well as a graduate specialization and certificate in an affiliated department (Anthropology and Geography, English, History, Modern Languages and Literatures, Philosophy, Political Science). The program studies human rights in an international perspective. A leading theme is the relationship between cultural diversity and human rights. Further information can be found at [www.unl.edu/HumanR/index.html](http://www.unl.edu/HumanR/index.html).

### Institute for Ethnic Studies

Offers interdisciplinary and intercollegiate degrees through the Institute for Ethnic Studies through the College of Arts and Sciences and coordinates ethnic studies on campus. "Ethnic Studies" refers to the investigation, exploration, and involvement with those facts and areas that bear on the lives and experiences, both past and present, of the ethnically and/or racially distinct groups in our society known as Mexican-Americans (Chicanos), Hispanics or Latinos, Native Americans (American Indians), and Black Americans (African Americans).

The Institute offers a major and/or minor in both Ethnic Studies and Latin American Studies and minors in African American Studies, African Studies, Chicano Studies, and Native American Studies.

Further information can be found at <http://ethnicstudies.unl.edu>.

### Intensive English Program

The Intensive English Program (IEP) at the University of Nebraska–Lincoln offers international students an opportunity to learn English in small classes on the campus of a major university.

Each year, the Intensive English Program conducts five eight-week sessions of English instruction at several levels of language proficiency. Classes are designed to improve students' English abilities so they can perform effectively in American university classes. The IEP also offers short-term courses of instruction to groups of students on a contractual basis.

The University of Nebraska–Lincoln IEP welcomes students from all over the world who want to devote themselves full time to learning English. Applications are encouraged from those who are seeking regular academic admission to UNL.

Further information can be found at <http://www.unl.edu/piesl/iep.shtml>.

### International Studies

The undergraduate program in International Studies emphasizes the intersection of the global, the international, and the national. Our goal is to help students to develop the knowledge and understanding necessary to grapple with the complex global challenges facing the world, including climate change, war, migration, economic development, ethnic conflict, and international terrorism.

### Law/Psychology

The Law/Psychology program in the Department of Psychology offers interdisciplinary training in psychology and the law. Initiated in 1974, it is the oldest ongoing program of its kind in the world. It specializes in training students and professionals to apply theory and research from psychology and other social sciences to the analysis of empirical questions in law and policy. Faculty from the Department of Psychology and the Law School collaborate to provide instruction at the graduate and undergraduate levels. The faculty conduct research on a variety of topics related to mental health law and forensic psychology, ethics, jury and witness behavior, and scientific evidence. Graduate students pursue a combination of degrees in law (JD, MLS) and psychology (MA, PhD). Students may specialize in diverse areas of psycholegal studies. Further information can be found at [psycweb.unl.edu/psylaw/](http://psycweb.unl.edu/psylaw/).

### Materials Research Science and Engineering Center

The Materials Research Science and Engineering Center (MRSEC) "Quantum and Spin Phenomena in Nanomagnetic Structures" (QSPINS) at the University of Nebraska–Lincoln is one of a nationwide network of MRSECs sponsored by the National Science Foundation (NSF). NSF MRSECs are centers of excellence that support interdisciplinary materials research and education of the highest quality in our nation.

QSPINS was established in 2002 and renewed in 2008 to carry out collaborative research on new magnetic structures and materials at the nanometer scale, with the aim of developing fundamental understanding of their properties and related phenomena. Nanomagnetic structures have potential applications in areas such as advanced electronics, computing, data storage, energy production, handheld electronic devices, sensors and medical technologies. QSPINS fosters interactions with industrial companies to leverage the expected scientific innovations for potential technological advances.

As an integral part of the Center, QSPINS offers interdisciplinary training for the next generation of materials scientists and engineers by providing regional four-year institutions experience and tools to improve their materials science programs and curricula, offering opportunities for middle- and high-school teachers and their students to learn about materials science, and by addressing pre-college segments of the educational pipeline via targeted outreach activities. Further information can be found at <http://www.mrsec.unl.edu>.

### Nebraska Center for Mass Spectrometry

The Nebraska Center for Mass Spectrometry, located in the Department of Chemistry in the College of Arts and Sciences at the University of Nebraska–Lincoln, provides opportunities for undergraduate science students to gain research experience in bioanalytical chemistry. The primary purpose of this laboratory is to provide researchers within the Nebraska research community access to high performance instrumentation and knowledgeable staff in mass spectrometry. These services, which are often used to identify a wide variety of materials including products of organic synthesis, proteins, oligosaccharides and nucleic acids, support research in many different departments at UNL and the University of Nebraska Medical Center. Further information can be found at [biotech.unl.edu/oldroot/MassSpec/](http://unl.edu/oldroot/MassSpec/).

### Nebraska Center for Materials and Nanoscience

The Nebraska Center for Materials and Nanoscience (NCMN) was founded in 1988 by action of the Board of Regents. The major goal of NCMN is to be a center of excellence in research, graduate and post-doctoral education, and service in the area of materials science and nanotechnology including materials physics, materials chemistry and materials engineering. It also administers the Nanoscale Science and Technology Program of Excellence. The Center is a multidisciplinary organization with more than seventy faculty members in seven departments in the College of Arts and Sciences and the College of Engineering. NCMN research thrusts include nanoscale electronic, magnetic and optical materials and devices; mechanics and processing of materials; materials chemistry, and biomolecular materials. The Center provides an excellent materials and nanoscience research infrastructure through the operation of Central Facilities such as Electron Microscopy, Materials Preparation, Crystallography, Nanofabrication, etc., operation of a weekly seminar series, collaborative research programs, materials analysis, and technology transfer. Further information can be found at [www.unl.edu/ncmn](http://www.unl.edu/ncmn).

### Nebraska Center for Virology

The Nebraska Center for Virology conducts innovative and collaborative research by combining the expertise and facilities of Nebraska's leading biomedical research institutions, UNL, UNMC, and Creighton University. At UNL, faculty from the College of Arts and Sciences and the Institute of Agriculture and Natural Resources play primary roles. The Center is made up of 43 faculty and conducts research on human viruses like HIV and other infectious agents,

animal and plant viruses, and on aspects of the host's response that lead to pathological changes and disease. The Center, initiated by a grant from the National Institutes of Health, supports undergraduate, graduate, and postdoctoral training fellowships. The Center's home, Ken Morrison Life Sciences Research Center, is a brand new state-of-the-art facility where faculty and students from different departments are housed. It sponsors an annual symposium, where invited national distinguished scientists present information on contemporary topics in viral diseases, and also an annual intercampus retreat attracting students, postdocs, faculty and individuals from industry throughout the region who are interested in virology. Further information can be found at [www.unl.edu/virologycenter](http://www.unl.edu/virologycenter).

### Nineteenth Century Studies Program

Nineteenth Century Studies, sponsored by the Departments of English, History, and Modern Languages and Literatures, supports interdisciplinary graduate work and faculty scholarship. Its graduate specialization includes two interdisciplinary seminars (co-taught by faculty from a range of humanities disciplines), and interdisciplinary thesis, and disciplinary course work in the nineteenth century. In addition, the program holds faculty seminars designed to develop cross-disciplinary connections in research and teaching and sponsors visiting speakers and monthly colloquia; it also supports numerous digital projects in cooperation with the Center for Digital Research in the Humanities. In 2003, the program was named a University Priority. For further information, contact the director, Andrew Graybill, agraybill2@unl.edu or information can be found on the Web site: <http://www.unl.edu/19thcentury>.

### Prairie Schooner

A literary quarterly in continuous publication for more than 80 years, *Prairie Schooner* publishes fiction, poetry, essays, interviews and book reviews by established and beginning writers. It has won national awards throughout its history and has been represented in *Best American Short Stories*, the *Pushcart Prize*, and other anthologies. It is an important poetry and fiction market for writers whose work will reach a national and international audience. Its office is located at 201 Andrews Hall on the University of Nebraska-Lincoln campus. Further information can be found at <http://prairieschooner.unl.edu>.

### Psychological Consultation Center

The Psychological Consultation Center (PCC) is a mental health clinic operated by the Clinical Psychology Training Program in the College of Arts and Sciences. Therapists are doctoral students supervised by licensed clinical psychologists. The PCC provides outpatient psychotherapy and assessment services for children, adolescents, adults, couples, and families. PCC staff are committed to offering sensitive services for gay, lesbian, bisexual, transgendered and heterosexual persons from a range of cultural backgrounds. The PCC is open to anyone in Lincoln and surrounding areas. Fees for services at the PCC are affordable and are based on the clients ability to pay. The

PCC is located at 325 Burnett Hall, (402) 472-2351. Further information can be found at <http://www.unl.edu/psychpage/dept/pcc.shtml>.

### Raikes School of Computer Science and Management

A residential undergraduate honors program to develop leaders for the information technology-based business world. The innovative curriculum reflects a balanced integration of computer science and management education, along with the professional skills necessary to be successful in today's information-driven economy. The culture of the school will inspire students to pursue excellence in all endeavors and achieve success with hard work. Students are expected to be leaders in the classroom and on campus.

The school has two major components; a core curriculum and a Design Studio. The core curriculum blends several major topics into a cohesive, project-oriented, four-year educational experience. In Design Studio, student-led teams partner with a corporate or public sector client to develop a software solution for the client's business or operational opportunity. In total, the Raikes School will allow its graduates to:

- Create innovative technical products for business,
- Manage technical development,
- Use technology to lead business,
- Understand technology market opportunities, and
- Implement technological strategies.

Students interested in learning more about the Raikes School are encouraged to contact David Rosenbaum, Associate Director for Academic Affairs, 472-6000, or [raikes.unl.edu](http://raikes.unl.edu).

### Survey Research and Methodology

The masters program in Survey Research and Methodology offers interdisciplinary training in survey research methods and data analysis. Initiated in 1997, it is already nationally recognized. The two-year, non-thesis program trains students to be research professionals in a wide variety of fields, including traditional social sciences, marketing, statistics, journalism, public administration, and education. The program is based on an interdisciplinary curriculum that builds knowledge of the principles of survey methodology and develops skills in applying these principles to problems in survey research. In addition to a set of core courses, students choose a minor area of specialization to maximize their skills for particular work environments. Students also participate in faculty research and gain practical experience through a summer internship in a research setting, for example, commercial survey and market firms, media groups, governmental agencies, academic research establishments or nonprofit associations. Under the supervision of an on-site supervisor, they design and conduct a survey research project for a client from start to finish. Further information can be found at [sram.unl.edu/](http://sram.unl.edu/).

### Water Center

The UNL Water Center is a statewide priority program focusing on surface and groundwater quality research, educational outreach programming on

pertinent water issues and challenges and helps coordinate interdisciplinary solutions to the most pressing water-related issues of our time. It does this within the University of Nebraska system as a part of NU's Institute of Agriculture and Natural Resources (IANR) and as part of UNL's School of Natural Resources (SNR). The Water Center provides resources and promotes coordination of research by faculty in more than 11 departments in the College of Arts and Sciences, the College of Engineering, and in IANR's College of Agricultural Sciences and Natural Resources (CASNR). The Water Center has been operating since 1968, having been established by Congressional mandate in 1964. It is one of more than 50 water resources research institutes forming a network at universities nationwide. A relatively new development of the Water Center, meant to strengthen University of Nebraska efforts to be a regional and national leader in teaching, research and education in water sciences, water management, and water policy and law, is the Water Resources Research Initiative, which operates within the Water Center. For easy access to Water Center-related facilities, key programs and courses in the water sciences, go online to [watercenter.unl.edu](http://watercenter.unl.edu).

### Women's and Gender Studies

Women's and Gender Studies is a multidisciplinary program within the College of Arts and Sciences offering a well-established undergraduate major and minor, graduate specialization and minor, and a minor in LGBTQ/Sexuality Studies. Central to our program is the study of women, in all their diversity and through a variety of disciplinary lenses. We study women's contributions as writers and scholars, artists and activists, public figures and private citizens, in the past and the present. The program also studies gender more broadly by examining the construction of feminine and masculine identities across time and cultures and by assessing the ways gender signifies what one scholar has described as "relationships of power." In these relationships of power, we examine not only those which exist between women and men but also how gender intersects with other social identities such as race, social class, ethnicity, nationality, age, physical ability, and sexual orientation. With course offerings from more than twelve academic disciplines, Women's and Gender Studies introduces students to exciting ideas, dynamic professors and classmates, and feminist thought and perspectives in small, collaborative communities of learning. Further information can be found at [www.unl.edu/womenssp/](http://www.unl.edu/womenssp/).

## College Scholarships

The Dean's Office of the College of Arts and Sciences, in conjunction with the College Committee on Academic Distinction and Awards for Students, chooses recipients for College scholarships and also recommends students for certain scholarships awarded by the Office of Scholarships and Financial Aid and by external agencies. Students interested in applying for one of these awards may obtain information in the Dean's Office, 1223 Oldfather Hall, or the Arts and Sciences Advising Center, 107 Oldfather Hall. Students must be enrolled and attending full-time at the time of the application.

Many of the college scholarships require demonstrated need. If you wish to be considered for any of these scholarships, it is necessary that you also complete the following on-line applications:

- A. Free Application for Federal Student Aid (FAFSA) by going to [www.fafsa.ed.gov](http://www.fafsa.ed.gov)
- B. The Upper Class Scholarship Application with the Office of Scholarships and Financial Aid by going to:
  - [www.unl.edu/scholfa/cover.html](http://www.unl.edu/scholfa/cover.html)
  - Choose Upper Class Scholarship application

## Scholarships Awarded by the College

**Arts and Sciences Scholarship.** Awarded to a student with demonstrated financial need.

**Larry Doerr Scholarship Fund for Arts and Sciences.** Awarded to an undergraduate enrolled in the College of Arts and Sciences; preference given to students studying in the areas of Humanities, College of Arts and Sciences (defined to include classics, communication studies, English, history, modern languages and philosophy).

**Chancellor's Scholarship for Math and Science.** Awarded to an undergraduate enrolled in the college majoring in science or mathematics.

**Herbert Thomas and Lilah David Folsom Memorial Scholarship.** Awarded to a full-time undergraduate student enrolled in the pre-medicine program in the College of Arts and Sciences at UNL with a cumulative grade point average of 3.0 or better.

**Carl Oscar and Hilde Johnson Scholarship.** Awarded to a junior or senior majoring in language or social sciences.

**Kiffin Scholarship.** Awarded to a sophomore or above, graduate of a Nebraska high school, in the upper 20% of class with demonstrated financial need.

**Dorothy Kinyoun Scholarship.** Awarded to a full-time student.

**Robert L. McCall Arts and Sciences Scholarship.** Awarded to an undergraduate in Arts and Sciences; graduate of a Nebraska high school; financial need; for those individuals who have experienced disadvantages, including but not limited to under-represented racial minority students.

**Carroll R. McKibbon Scholarship.** Awarded to an undergraduate enrolled in the College of Arts and Sciences with a 3.0 cumulative GPA or better. Preference is given to students who have demonstrated academic merit and accomplishments and also to students pursuing majors in history and political science.

**Charles D. and Betty J. McKinsey Scholarship.** Awarded to an undergraduate enrolled in the College of Arts and Sciences; graduate of a Nebraska high school; with demonstrated financial need.

**Martina McMenamin Memorial Scholarship.** Awarded to a sophomore or above, graduate of a Nebraska high school with first priority to

graduates of Daniel J. Gross High School with a 3.0 GPA or better and demonstrated financial need.

**Sallie W. Nixon Educational Scholarship.** Awarded to an undergraduate enrolled full-time in the College of Arts and Sciences. Preference is given to non-traditional students.

**Henry and Dorothy Riekes Scholarship.** Awarded to a sophomore or above, currently enrolled in one course which applies to the minor in Judaic Studies.

**Shuler-Mills Scholarship.** Awarded to a junior or senior in the College of Arts and Sciences with demonstrated academic progress; financial need; and a graduate of a Nebraska high school.

**Annis Chaiken Sorenson Award.** Awarded to a junior majoring in the humanities.

**Theodore C. Sorensen Public Service Scholar Award.** Awarded to an undergraduate pursuing a major in the College of Arts and Sciences with senior standing who has demonstrated superior academic performance and a commitment to public affairs and service in Nebraska, and/or the United States or internationally. Preference given to graduates of Nebraska high schools.

**Grace and Mabel Souther Scholarship.** Awarded to a student with a major in the College of Arts and Sciences.

**Eunice Stout Scholarship.** Awarded to a sophomore or above enrolled in the College of Arts and Sciences, GPA of 3.0 or better, and a graduate of a Nebraska high school.

**Robert and Norma Stine Scholarship.** Awarded to an undergraduate enrolled in the College of Arts and Sciences. Preference given to students with demonstrated financial need.

**Eunice Stout Scholarship.** Awarded to an undergraduate in the College of Arts and Sciences with at least sophomore standing, a cumulative GPA of at least 3.0, and a graduate of a Nebraska high school.

**Max John and Pauline H. Stuermer Scholarship.** Awarded to a full-time female undergraduate student enrolled in the pre-medicine program in the College of Arts and Sciences at UNL and with a major in the Humanities as defined by the Dean, College of Arts and Sciences.

**Robert O. and Gloria L. Vesper Scholarship Fund for the Sciences.** Awarded to an undergraduate student with sophomore standing or above majoring in geology, geography, meteorology-climatology, biology, physics, chemistry, computer science, or math. Must be a graduate of a Nebraska high school with preference given to those from Brown, Rock, Kewa Paha, Cherry, Holt, and Boyd counties; and have demonstrated financial need.

**Charles and Linda Wilson Humanities in Medicine Scholarship.** Awarded to a full-time undergraduate enrolled in both the pre-medicine program and the Humanities in Medicine

Program in the College of Arts and Sciences, with a declared major in a humanities field as defined by the Dean, College of Arts and Sciences. Preference will be given to students demonstrating financial need.

## Departmental Scholarships

There are numerous awards and scholarships earmarked for specific majors, all of which are administered individually by the Departments in the College of Arts and Sciences. To find out which scholarships you might be eligible for and the procedures for applying, please contact the appropriate Department for information.

## University Scholarships

The Office of Scholarships and Financial Aid administer numerous funds. Consideration for these scholarships is based on submission of the Upper Class Scholarship Application. This is an on-line application that can be found at [www.unl.edu/scholfa/](http://www.unl.edu/scholfa/).

## Other Scholarships

**Edythe Wiebers International Studies Program Scholarship.** Awarded to an undergraduate and/or graduate to subsidize expenses for one academic year associated with a foreign study program. To be eligible, a student must read, write, and speak a foreign language at a level that allows full pursuit of the proposed course of study or research abroad, have a cumulative GPA of at least 3.0, have completed at least 42 hours toward the undergraduate degree, and have worked to provide at least 10% of the cost of his/her college education. Special application forms can be obtained from college offices across campus and from the International Affairs Office.

**Barry M. Goldwater Scholarship.** The university may nominate up to four students, sophomores or juniors, majoring in engineering, mathematics, or the natural sciences, to the Barry Goldwater Foundation.

Contact Dr. Patrice Berger in the University Honors Program for more information and application materials.

## Fulbright-Hays Fellowships

These fellowships are awarded annually and selections are made by various national committees from the applications submitted. Graduating seniors interested in applying should contact:

Institute for International Studies  
University of Nebraska  
1237 R Street  
PO Box 880221  
Lincoln, NE 68508-0221

Campus deadline for submitting applications is October 1.

**NOTE:** Students who wish to pursue graduate work should inquire in the Office of Graduate Studies, 301 Canfield Administration Building, concerning scholarships, fellowships, and assistantships open to graduating seniors.

## Academic Advising

All students in the College of Arts and Sciences are assigned to an academic adviser to help them plan their academic careers and select appropriate courses. Incoming freshmen are counseled during New Student Enrollment by specially trained advisers from the Arts and Sciences Advising Center.

Students who have not decided on a major field of study will be assigned an adviser in the College Advising Center. Students "declaring" a major, changing majors (or colleges), or needing help with problems should also visit the Advising Center.

Students who have decided on (declared) a major or a pre-professional area will be assigned to an adviser by the appropriate chief adviser (listed below). The chief advisers and the Advising Center also are available to answer questions about majors, minors, and pre-professional areas a student is considering.

For complete and current information on chief advisers for majors, minors, and pre-professional areas, contact the Arts and Sciences Advising Center, 107 Oldfather Hall, 472-4190.

## Honors and Awards

### Honors Program

The College of Arts and Sciences encourages qualified students to participate in the University Honors Program. In addition, several departments of the College of Arts and Sciences offer special honors sections of regular freshman courses to meet the needs of students with superior preparation in those subjects. In some departments such students may then progress more rapidly into advanced courses.

### Dean's List

The College recognizes students for academic achievement during the fall and spring semesters by placement on the College Dean's List. To qualify for the Dean's List in the College of Arts and Sciences, students must complete 12 credit hours of course work (courses must be started and completed in one semester) by the census date of the grade reports and attain a minimum semester grade point average of 3.7. The following do not qualify as part of the 12 credit hours: Pass/No Pass credit, transfer hours, removals of incompletes, and grade changes submitted after the census grade reports.

### Degrees with Distinction

In recognition of outstanding academic excellence, the College recommends the bachelors degree *With Distinction*, *With High Distinction*, and *With Highest Distinction*. The recommendations are made by the Committee on Academic Distinction and Awards for Students. To be recommended for distinction, candidates must fulfill the specific criteria for *Highest Distinction*, *High Distinction*, or *Distinction*, as described below in addition to all of the general criteria and procedures applicable to all distinction classifications.

**Highest Distinction.** Candidates for the bachelors degree may be recommended for "Highest Distinction" on the basis of the following criteria: outstanding scholastic standing (cum GPA of 3.92 or above) and the highest recommendation based upon a thesis or comparable creative effort and a comprehensive examination.

**High Distinction.** Candidates for the bachelors degree may be recommended for "High Distinction" by fulfilling one of two sets of criteria: 1) by achieving outstanding scholastic standing (cum GPA of 3.92 or above), or 2) by achieving excellent scholastic standing (cum GPA between 3.85 and 3.92) and by receiving a high recommendation based on a thesis or comparable creative effort and a comprehensive examination.

**Distinction.** Candidates for the bachelors degree may be recommended for degrees for "Distinction" by achieving one of two sets of criteria: 1) by excellent scholastic standing (cum GPA between 3.85 and 3.92), or 2) by achieving high scholastic standing of at least a cumulative grade point average of 3.5 and by receiving a recommendation for distinction based on a thesis or comparable creative effort and a comprehensive examination. No student will be considered for distinction with a cum GPA below 3.5.

The following criteria apply to all categories: the Committee may consider especially the work of the last two years, and ordinarily only students who have taken their last 48 hours of graded course work while registered in the College of Arts and Sciences are considered. The Committee reviews both grades and the program of courses.

Students who choose one of the thesis options described above should make arrangements with their academic adviser and major department. They should register for the independent study course in their major area of study (usually 399H), typically, starting with the semester prior to the semester in which they plan to graduate. A thesis prospectus form is to be filed by each student in the semester prior to graduation. This thesis prospectus form must be approved by two faculty co-advisers who have agreed to guide the student's work. The student will submit the completed thesis to the same faculty co-advisers for final evaluation.

The deadline for the designated departmental distinction group to submit a student's materials to the Dean's office for consideration for distinction is six weeks prior to the Monday following commencement, except for the August commencement in which case the deadline is four weeks prior to the Friday before commencement. These materials must include a copy of the student's thesis, the student's thesis prospectus form, and the thesis evaluation form in support of a degree with distinction. The forms are available in 107 and 1223 Oldfather Hall and can also be found on the college Web site at <http://ascweb.unl.edu/students/distinction.html>. Students are urged to contact the department in which they are writing a thesis for department deadlines.

A degree with Distinction is an award which is recommended by the Committee on Academic Distinction and Awards for Students after it carefully weighs and considers all aspects of a student's

record: the GPA, the number of courses taken Pass/No Pass, number of courses at the 300/400 level, the strength of the program, and (when submitted) the quality of the thesis as defined by evaluations provided by the co-advisers and the major department.

## Student Organizations

### Student Advisory Board

2009 Officers: Steph Sutton, *President*; Lindsey Eastwood, *Vice President*; Tara McDonald, *Treasurer*; Sarah Lee, *Secretary*.

For a current list of Student Advisory Board members contact the College of Arts and Sciences Dean's Office, 1223 Oldfather Hall.

**Purposes.** The Board shall advocate undergraduate educational quality in the College of Arts and Sciences.

The Board shall seek to provide increased opportunities for formal and informal contact for all students with the college faculty and shall represent the educational interests of undergraduate students, especially those in the College. Authority to represent the student's interest shall include the appointment of students to faculty committees and Board chairperson.

The Board shall establish and maintain a liaison of communication with students in order to gain student opinions and concerns and to inform students of current College issues. Students may contact the Board through its mailbox in the Arts and Sciences Advising Center, 107 Oldfather Hall.

### Departmental Organizations

The departments of the College sponsor honorary societies and clubs for majors and minors giving them the opportunity to develop their leadership skills and to interact on a social and professional level with students and faculty who share their interest. Students should contact departments for information on these organizations.

## Careers

The possibilities are endless. Society has a growing need for graduates with the thinking and communication skills developed while obtaining a liberal arts degree, and who are broadly educated to be adaptable to the needs of a rapidly changing society.

Arts and sciences graduates have become financial planners, radiologists, teachers, doctors, airline pilots, ministers, lawyers, public relations directors, and resource managers.

Often there is no direct link between a student's academic major and career choice. A student does not have to be a biology major to become a physician. Not all history majors become historians. The major is only one part of a student's career preparation; it is a foundation for the entire program at the university, which may also include a minor, internships, special studies, and co-curricular activities.

The College works closely with Career Services, 230 Nebraska Union, to help students with their career planning. In addition, the Chief Advisers provide information and guidance.

## International Opportunities

The College supports the following international interdisciplinary programs offering a major or a minor: African American and African Studies, Asian Studies, European Studies, International Studies, and Latino and Latin American Studies. Departments and faculty in the College of Arts and Sciences are also actively involved as sponsors, teachers and leaders in many of the numerous Study Abroad programs administered by the Office of International Affairs.

The College encourages students to study overseas as part of their University experience. The University participates in exchange and several formal study abroad programs world-wide and Nebraska Semester Abroad. International Affairs (see "International Affairs" on page 24) can arrange for individuals to earn University credit for study at foreign universities. The International Affairs Office has study abroad, overseas opportunities, and flights and study tours programs that assist students wishing to participate in overseas studies.

## Admission to the College of Arts and Sciences

The entrance requirements for the College of Arts and Sciences are the same as the UNL General Admission Requirements (see "Admission to the University" on page 6). Students who are admitted through the Admission by Review process with core course deficiencies will have certain conditions attached to their enrollment at UNL. These conditions are explained under "Removal of Deficiencies" on page 6 of this bulletin.

In addition to these requirements, the College of Arts and Sciences strongly recommends a third and fourth year of languages. Four years of high school language will exempt students from the College of Arts and Sciences' 16-hour language requirement. It will also allow students to continue language study at a more advanced level, and give more opportunity to study abroad.

### Removing Deficiencies

You must remove entrance deficiencies before you can graduate from the College of Arts and Sciences. For students entering August 1997 or later and who graduated from high school January 1997 and after, courses taken to remove a high school core course deficiency may not be counted toward either the major, minor, college degree requirements, or university comprehensive education requirements. They may only be counted in the "electives" category in meeting degree requirements. The most common deficiencies are in foreign languages and mathematics.

For University policy, see "Graduation Requirements" on page 16.

### Removing Foreign Language Deficiencies

A student who has had fewer than two years of one foreign language in high school will need 130 semester hours as a minimum for a degree from the College of Arts and Sciences. A student will also need to complete the "102" course in a language to clear the deficiency and the "202" course to complete the college graduation requirement in language.

### Removing Mathematics Deficiencies

1. A deficiency of one year of geometry can be removed by taking two high school geometry courses by Independent Study or by completing a geometry course from an accredited community college or a four-year institution. Neither of these options count for college credit.
2. A deficiency of the first year of algebra can be removed by taking two high school Algebra I courses through Extended Education (not for college credit).
3. A deficiency of the second year of algebra can be removed by taking MATH 95C (not for college credit) or MATH 100A (may be taken for college credit but does not apply toward graduation).
4. A student whose deficiency is the additional (fourth) year of mathematics that builds on algebra must successfully complete MATH 101, 102, or 103, or an equivalent course at another institution.

### Removing Other Deficiencies

Contact the Arts and Sciences Advising Center for specific courses to remove other entrance deficiencies.

**NOTE:** The entrance requirements are different for certain preprofessional programs in the College of Arts and Sciences see "Pre-Professional Programs and Combined Degree Programs" on page 217.

## Transfer Students

To be considered for admission a transfer student, Nebraska resident or nonresident, must have an accumulated average of C (2.0 on a 4.0 scale) and a minimum C average in the last semester of attendance at another college. Transfer students who graduated from high school January 1997 and after must also meet the UNL General Admissions Requirements. Those transfer students who graduated before January 1997 must have completed in high school 3 years of English, 2 years of the same foreign language, 2 years of algebra, and 1 year of geometry. Transfer students who have completed less than 12 credit hours of college study must submit either the ACT or SAT scores.

Ordinarily, hours earned at an accredited college are accepted by the University. The College, however, will evaluate all hours submitted on an application for transfer and reserves the right to accept or reject any of them. Sixty-six is the maximum number of hours the University will accept on transfer from a two-year college. Transfer credit in the major must be approved by the major adviser on a *Request for Substitution Form* to meet specific course requirements, group requirements,

or course level requirements in the major. At least 9 hours in the major field must be completed at the University regardless of the number of hours transferred.

The College of Arts and Sciences will accept no more than 15 semester hours of C- and D grades from other schools. The C- and D grades cannot be applied toward requirements for a major or minor. This policy does not apply to the transfer of grades from UNO or UNK to UNL. All D grades may be transferred from UNO or UNK, but they are not applicable to a major or minor.

### Transfer Credit from Foreign Institutions

Credit for courses taken at foreign universities and colleges will be transferred only after validation by the appropriate department. This evaluation may include examination of the student over subject matter studied at the foreign institution.

Normally credit is not given for pre-university work. In some instances, it may be possible to receive credit through satisfactory examination, such as Advanced Placement.

## Readmitted Students

Students readmitted to the College of Arts and Sciences will follow the requirements stated in the bulletin published in the first year enrolled at UNL or in any bulletin in effect while they are enrolled in the College of Arts and Sciences. Beginning with the 1990-91 bulletin, the bulletin followed may not be more than 10 years old at the time of graduation. A student must, however, meet the requirements from one bulletin only, and may not choose a portion from one bulletin and the remainder from another.

## College Academic Policies

### Classification of Students

#### Freshman Program

The first-year program is designed to give students a broad basis for future study. It includes English composition, a foreign language, and courses in science, the humanities, social sciences or mathematics for a total of about 12-15 hours per semester. During this year, the student will progress toward meeting University ACE requirements and will have an opportunity to explore various areas of study while starting or deciding upon a major. With the help of New Student Enrollment and their academic advisers, students choose specific courses according to their needs and interests.

#### Class Standing

**Sophomore Standing.** For admission to sophomore standing a student must have completed all of the College entrance requirements, earned

a minimum of 27 semester hours of credit, and attained a total grade point average of at least C.

**Junior Standing.** A student has junior standing after meeting the requirements for sophomore standing and completing 53 semester hours of credit.

**Senior Standing.** A student has senior standing after meeting the requirements for junior standing and completing 89 semester hours of credit.

## Pass/No Pass Privilege

University regulations for the Pass/No Pass (P/N) privilege state:

The Pass/No Pass option is designed for your use by seeking to expand your intellectual horizons by taking courses in areas where you may have had minimal preparation.

For students in Arts and Sciences, the University regulations for Pass/No Pass apply as follows:

1. Neither the P nor the N grade contribute to your GPA.
2. P is interpreted to mean C or above.
3. A change to or from a Pass/No Pass may be made until mid-term (1/2 of the course).
4. The Pass/No Pass or grade registration cannot conflict with the policy of the professor, department, college, or University governing the grading option.
5. Changing to or from Pass/No Pass requires using the eNRoll system to change the grading option or filing a Drop/Add form with the Registration and Records, 107 Canfield Administration Building. After mid-term of the course, a student registered for Pass/No Pass cannot change to a grade registration unless the Pass/No Pass registration is in conflict with the policy of the professor, department, college, or University governing Pass/No Pass. The Pass/No Pass grading option is not available to students on academic probation unless the course is offered only on a Pass/No Pass basis.
6. The Pass/No Pass grading option cannot be used for the removal of C- or D or F grades.

Pass/No Pass privileges in the College of Arts and Sciences are extended to students according to the following additional regulations:

1. Pass/No Pass hours can count toward fulfillment of University ACE requirements and college distribution requirements up to the 24-hour maximum.
2. Many Arts and Sciences departments and programs do not allow courses in the major or minor to be taken Pass/No Pass; students should refer to the department's or program's section of the bulletin for clarification. By college rule, departments can allow up to 6 hours of Pass/No Pass in the major or minor.
3. Freshmen and sophomores may enroll for no more than 6 hours of P/N work per semester.
4. Departments may specify that certain courses of theirs can be taken only on a P/N basis.
5. The college will permit no more than a total of 24 semester hours of P/N grades to be applied

toward degree requirements. This total includes all Pass grades earned at UNL and other US schools.

**NOTE:** This 24-hour limit is more restrictive than the University regulation.

Students who wish to apply P/N hours to their major and minor(s) must obtain approval on a form that is available in the Arts and Sciences Advising Center, 107 Oldfather Hall.

## Credit by Examination

Through study or experience that parallels a University of Nebraska-Lincoln course, a regularly enrolled University student may feel prepared to pass an examination on the course content of a specific course for credit in that course. To apply for credit, a student should:

1. Consult with the department chair.
2. Obtain a Credit by Examination Form at the Records Office, 107 Canfield Administration Building, 472-3649. Current enrollment in the University must also be verified.
3. Secure the approval signature from the department chair, instructor, and the dean of the student's college. The Dean's signature can be obtained in the Arts and Sciences Advising Center, 107 Oldfather.
4. Secure the bursar's receipt for payment of the appropriate fee per course for credit by examination. Currently, the fee is one-half the resident tuition rate.
5. Present the completed form to the instructor designated by the department chair. The instructor will give the examination and report the results on the Credit by Examination Form to the Admissions Office, Alexander Building, 472-0130.

Examination for credit through UNL departments may be taken only by currently enrolled students. A student is not permitted to receive credit by examination in a course which is a prerequisite for a course already taken unless the course and its prerequisites cover essentially different subject matter.

The College of Arts and Sciences also gives credit for the subject and general examinations of the College Level Examination Program (CLEP) and the Advanced Placement (AP) Program administered by the College Entrance Examination Board. See the Arts and Sciences Advising Center, 107 Oldfather Hall, for current policy regarding CLEP and AP examinations.

## Graduate Courses

Seniors in the University who have obtained in advance the approval of the dean for Graduate Studies may receive up to 12 hours credit for graduate courses taken in addition to the courses necessary to complete their undergraduate work, provided that such credits are earned within the calendar year prior to receipt of the baccalaureate. For procedures, inquire at the Office of Graduate Studies.

Course work taken prior to receipt of the baccalaureate may not always be accepted for transfer to other institutions as graduate work.

## Independent Study

There are many opportunities to earn college credit through the University of Nebraska-Lincoln Extended Education. Majors in the College of Arts and Sciences may apply a maximum of 30 hours of UNL open enrollment courses and summer reading courses toward the total number of hours required for the degree.

For further information, contact:

Extended Education  
University of Nebraska-Lincoln  
900 N 21st Street  
Lincoln, NE 68583-8307  
(402) 472-4500

## Grading Appeals

A student who feels that he/she has been unfairly graded must ordinarily take the following sequential steps in a timely manner, usually by initiating the appeal in the semester following the awarding of the grade:

1. Talk with the instructor concerned. Most problems are resolved at this point.
2. Talk to the instructor's department chairperson.
3. Take the case to the Grading Appeal Committee of the department concerned. The Committee should be contacted through the department chairperson.
4. Take the case to the College Grading Appeals Committee by contacting the Dean's Office, 1223 Oldfather Hall.

## College Graduation Requirements

### Which Bulletin to Follow

Students who enroll at UNL under the academic year (Fall, Spring, Summer) of the bulletin must fulfill the requirements stated in the bulletin or in any other bulletin which is published while they are enrolled in the College provided the bulletin they follow is no more than ten years old at the time of graduation. A student must, however, meet the requirements from one bulletin only rather than choosing a portion from one bulletin and the remainder from another.

Students readmitted to the College of Arts and Sciences should review bulletin information found on page 133 under the heading Readmitted Students.

### Senior Check

In the term after which a student has completed 85 hours, Graduation Services in Registration and Records, 109 Canfield Administration Building, will perform a "senior check." Students will be provided with a copy of the senior check. This check will inform students about the requirements that still need to be fulfilled in their chosen degree program. Questions about remaining requirements should be directed to the chief adviser for the major or the Arts and Sciences Advising Center, 107 Oldfather Hall.

## Credit Hours and Grade Point Average

A minimum of 125 semester hours of credit is required for graduation from the College of Arts and Sciences. Students who enter the College with fewer than two units of one foreign language from high school are required to take 130 semester hours as a minimum for the bachelor of arts or bachelor of science degree. A total grade point average of at least 2.0 is required.

## Courses Numbered above 299

Thirty of the 125 (or 130) semester hours of credit must be in courses numbered above 299. Of the 30 hours above 299, 15 hours (1/2) must be completed in residence at UNL. **NOTE:** ALEC 397E and ALEC 397K do not count toward this 30 hours.

## Course Exclusions

No credit for graduation is allowed for non-college level courses or for courses that deal primarily with the development of skills including the following:

- Driver training education
- Industrial arts (including courses concerned primarily with manual skills, tools, machines, or industrial processes and design) For example at UNL: TEAC 101, 102, 103, 104, 109, 201, 203, 204, 205, 206, 229, 242, 243, 300, 301, 340, 346.
- Agricultural education (credit is allowed for ALEC 102, 202, 337, 494, 496; or ALEC courses cross-listed with departments from which Arts and Sciences applies credit for graduation)
- Any introduction computer course training in DOS, word processing, spread-sheets, data base management, or other business software packages (CSCE 137 or BSAD 150 or AGRI 271)
- MATH 100A

## Course Restrictions

Students majoring in the College of Arts and Sciences may use courses in the following areas toward their degree within the following limits:

- Maximum 12 hours religion courses that advocate the doctrine or belief of a particular faith. This 12 hour limit does not apply to religious studies courses whose method and approach conforms to the standards of critical scholarship in the academic study of the humanities and social sciences.
- Maximum 30 hours by open enrollment and summer reading courses.
- Maximum 15 hours of C- and D grades are transferable from colleges outside UNL. The C- and D grades cannot apply to majors or minors. All C- and D grades from UNO or UNK may be transferred but they are not applicable to a major or minor.
- Maximum 66 hours accepted from a community college.
- Maximum 30 hours of clinical courses.
- Maximum 16 hours of applied music lessons and/or music ensemble.
- Maximum 4 hours Activity PE, Athletic Practice, or Basic Military Science with a maximum of 1 credit hour per semester.

- Maximum 12 hours total from any combination of the following areas:

Athletic Coaching (except ATHC 279)

First Aid (NUTR 170 at UNL)

Orientation and Study Skills. For example at

UNL: ALEC 397E and 397K (*neither course is applicable to the courses numbered above 299 requirement*); ASCI 107; BIOC 101; BIOS 150, 160; EDPS 150, 209; FDST 107; HRFS 183; NRES 101; NUTR 150; PSYC 100, 150; TEAC 210; VBMS 101

Military Science, Naval Science, or Aerospace Studies. (This restriction does not apply to cross-listed courses between military science, naval science, or aerospace studies and departments of the College of Arts and Sciences.)

- Any restrictions noted specifically by departments. Credit towards the degree may be earned in only one course, including honors sections, from each group of courses listed below:

BIOS 312 or AGRO 360

BIOS 313 or 314

CHEM 105, 109, 111, 113, 195

CHEM 116 or 221

CHEM 251 and more than 1 cr of CHEM 263

CHEM 471 or 481

CSCE 252D or CSCE 150E

CSCE 252D or ENGM 112

CSCE 252D or ELEC 121

CSCE 340 or 480

ECON 210 or 211 and 212

ECON 215, CRIM 300, EDPS 459 or STAT 218  
(was STAT 180)

FREN 201 and 202, or FREN 210

GEOG 150 and/or 152 or 155

GEOL 100 or 101 or 101H

GEOL 103 or 105

GERM 201 and 202, or GERM 210

GREK 102 or 151

LATN 102 or 201

MATH 101 and/or 102 or 103

MATH 104 or 106

MATH 200 or 300

MATH 201 or 301

MATH 340 or ENGM 480

PHYS 141 or 151

PHYS 151 or MSYM 109

SOCI 205 or CRIM 251

SOCI 209 or CRIM 355

SOCI 311 or CRIM 337

SOCI 474 or CRIM 413

SPAN 201 and 202, or SPAN 210

- For transfer students, course exclusions and restrictions will be determined on the Evaluation of Transfer credits.

## General Education Requirements, Majors, and Minors

In addition to the above requirements, students must complete the University ACE requirements, the college distribution requirements, the requirements for a major, and the requirements for a minor or minors if required by the major.

## College Distribution Requirements

The College of Arts and Sciences distribution requirements are designed to further the purposes of liberal education by encouraging study in several different areas. Courses satisfying these requirements may impart specialized knowledge or broadly connect the subject matter to other areas of knowledge.

All requirements are in addition to University ACE requirements. A student may not use a single course to satisfy more than one of the following five distribution requirements. A student cannot use a single course to satisfy both an ACE outcome and a College distribution requirement. Independent study or reading courses and internships cannot be used to satisfy distribution requirements. To see a complete list of excluded courses, run a degree audit through WAM.

Courses from interdisciplinary programs will count in the same area as courses from the home/cross-listed department(s). See <http://ascweb.unl.edu/academics/depts.html> for a complete list.

### Bachelor of Arts or Bachelor of Science (19 credits + Language)

#### A. Written Communication: 3 hours

To be selected from courses approved for ACE outcome 1.

#### B. Natural, Physical and Mathematical Sciences: 7 hours

From two different departments, including at least one lab science course from the natural or physical sciences. Lab courses may be selected from biochemistry, biological sciences, chemistry, geology, meteorology, physics and astronomy, geography, and anthropology\*. All other courses select from: biochemistry, biological sciences, chemistry, computer science and engineering, geology, meteorology, mathematics, physics and astronomy, and statistics.

\* See degree audit or College of Arts and Sciences adviser for approved geography and anthropology lab courses, approved non-lab psychology courses, or courses cross-listed with an Arts and Sciences department.

#### C. Humanities: 6 hours

From two different departments, select from classics\*, English, history, modern languages and literatures\*, philosophy, and religious studies\*.

\*Language courses numbered 210 or below apply only for the foreign language requirement.

#### D. Social Sciences: 3 hours

Select from anthropology, communication studies, geography, political science, psychology, or sociology

#### E. Languages Classical and Modern: 0-6 hours

Fulfilled by the completion of the 6-credit-hour second-year sequence in a single foreign language in one of the following departments: Classics and religious studies, modern languages and literatures, or anthropology. Instruction is currently available in Biblical Hebrew, Chinese, Czech, French, German, Greek, Japanese, Latin, Omaha, Russian, and Spanish. A student who has completed the fourth-year level of one foreign language in high school is exempt from the languages requirement.

In addition to the College of Arts and Sciences distribution requirements, the bachelor of science degree requires students to complete 60 semester hours in the natural and mathematical sciences.

### **Languages Exemption Policy**

UNL and Arts and Sciences will exempt or waive students from the UNL entrance requirement of two years of the same foreign language or from the College's language distribution requirement based on documentation only. The following are the options and procedures for documentation:

### **High School Transcripts**

1. For the University entrance requirements, students must show an official high school transcript with two or more years of the same foreign language in high school.

2. For the College of Arts and Sciences College Distribution Requirements Area 5 languages requirement, students must show an official high school transcript with four or more years of the same foreign language in high school, or show evidence of graduation from a non-English-speaking foreign high school.

3. For the College of Arts and Sciences College Distribution Requirements Area 5 languages requirement, students whose native language is not English must show English as a Second Language study on an official high school transcript. Four years of ESL at the high school level (9th, 10th, 11th and 12th grades) will be the basis for a waiver of the Area I Language requirement.

### **Proficiency Examination at UNL**

1. For the University entrance requirement, students who do not have transcript documentation can request to take a proficiency exam in the language. (This is not the same test as the Modern Languages Placement Exam.) However, UNL will provide testing only in the languages it teaches. Currently, these languages are:

French  
German  
Spanish  
Russian  
Czech  
Japanese  
Chinese

The Department of Modern Languages will oversee the test and provide written documentation to the Admissions Office that the student has passed the proficiency test at the 102 level.

2. For the College of Arts and Sciences College Distribution Requirements Area 5 requirement, the Department of Modern Languages will oversee the test at the 202 level. If the student passes the test, the department will sign the College Request for Waiver form and indicate the level of proficiency. The form is then forwarded to the Arts and Sciences Advising Center for approval.

### **Distance Education**

1. For the University entrance requirement, students without transcript documentation who claim proficiency in a language not taught at UNL, have the option of seeking out a distance education program in languages. If the student

completes the equivalent of 102 from an approved distance education program, the student will meet the UNL entrance requirement. The student must have the course work approved before he/she takes/ completes the course as equivalent to 102 by the modern languages department. The student then completes the course and has the distance education program send the transcript to the Admissions Office.

2. For the College of Arts and Sciences College Distribution Requirements Area 5 languages, the student can seek out a distance education program and complete the equivalent of the 202-level course. The student must submit the request on the College Request for Substitution form and have the course work approved by the Department of Modern Languages and the assistant dean for Advising Services. The student then completes the course and has the distance education program send the transcript to the Admissions Office.

### **Third Language Option**

If a student demonstrates knowledge of two foreign languages at the 102 level, the College of Arts and Sciences may consider waiving two semesters of the four semester College Distribution Requirements Area 5 languages requirement. If this waiver were granted, the student would then be required to complete 101 and 102 in another (3rd language) at UNL.

### **Restrictions on C- and D Grades**

The College will accept no more than 15 semester hours of C- and D grades from other schools except for UNO and UNK. No transfer C- and D grades can be applied toward requirements in a major or a minor. No UNL C- and D grades can be applied toward requirements in a major or a minor.

### **Residency Requirement and Open Enrollment and Summer Independent Study Courses**

Students must complete at least 30 of the 125 (or 130) total hours for their degree at UNL. Students must complete at least 1/2 of their major course work including 6 hours above 299 in their major, and 15 of the 30 hours required above 299 in residence. Credit earned during study abroad may be used toward the residency requirement if students register through UNL and participate in prior-approved study abroad programs (see "Study Abroad and Exchange Programs" on page 20). Open enrollment and summer independent study courses do not count toward residence. However, 30 semester hours earned through open enrollment courses and summer independent study courses at UNL may be applied toward a degree from the College.

### **Special Requests and Waivers**

Special requests concerning degree programs, including inquiries about exceptions to degree requirements, waivers, and substitutions should be made to the Arts and Sciences Advising Center, 107 Oldfather Hall.

### **Application for a Degree**

Each student who expects to receive a diploma must file an application of candidacy for the diploma in the Office of Registration and Records, 107 Canfield Administration Building. Announcements about deadline dates are posted on bulletin boards and the online University calendar, and are printed in the *Daily Nebraskan*.

Students are responsible for informing the Office of Registration and Records of their graduation plans, including their addresses; the manner in which they are completing their requirements such as by correspondence, by clearance of incompletes, by enrollment at another institution, by taking special examinations, etc.; and of any later revision of such plans. Failure to follow this procedure may cause postponement of graduation until a later semester.

## **Degree Programs and Areas of Study**

### **Degrees in the College of Arts and Sciences**

The College of Arts and Sciences offers curricula leading to the degrees of bachelor of arts and bachelor of science.

### **Two Degrees from Arts and Sciences**

A graduate who holds the bachelor of arts degree may earn the bachelor of science degree by completing an additional year of work in residence taking at least 30 more semester hours of course work for a minimum of 155 hours. The student must complete all degree requirements for the second degree, including the scientific base. A graduate who holds the bachelor of science degree may earn the bachelor of arts degree by completing another year of work in residence taking at least 30 semester hours of additional course work for a minimum of 155 hours. The student must complete all degree requirements for the second degree.

### **Two Degrees from UNL**

A graduate who holds a bachelors degree from another college at UNL may earn the bachelor of science or bachelor of arts degree from the College of Arts and Sciences by completing an additional year of work in residence taking at least 30 more semester hours of course work beyond the first degree. The student must complete all degree requirements for the arts and sciences degree.

### **Intercollege Studies**

**With College of Fine and Performing Arts:** A student in the College of Arts and Sciences pursuing a bachelor of arts degree with a major in arts and sciences may also complete a bachelor of arts major in the College of Fine and Performing Arts. In addition, a student in the College of Fine and Performing Arts pursuing a bachelor of arts degree with a major in fine and performing arts may also

complete a bachelor of arts major in the College of Arts and Sciences. The student must complete all degree requirements and a major in the home college and a second bachelor of arts major in the visiting college.

**With College of Journalism and Mass Communications:** A student in the College of Journalism and Mass Communications pursuing a bachelor of journalism degree may also complete a second major in the College of Arts and Sciences. In addition to ACE and College of Journalism and Mass Communications requirements, students will be expected to meet all College of Arts and Sciences distribution requirements and major requirements. Because students choosing this option will not be earning a degree from arts and sciences, they will not be eligible for arts and sciences-based scholarships and aid, but they will be eligible for consideration for Phi Beta Kappa.

### Transfer Students with a Non-UNL Degree

A transfer student who has received a bachelors degree from another institution must complete at least 30 hours of credit in residence at UNL in addition to transfer credit. Students must complete at least half of their major course work including 6 hours above 299 in their major, and 15 of the 30 hours required above 299 in residence. The student must complete all degree requirements for the arts and sciences degree.

### Cross-listed Course Policy

The College of Arts and Sciences recognizes cross-listed courses as equivalent for the purposes of degree requirements. Therefore, a course taken under one department which is cross-listed can be used in all the majors and minors affected by all the cross-listings of the course.

### Requirements for the Bachelor of Arts Degree

Students who wish to graduate with a bachelor of arts degree must complete the College graduation requirements, the University ACE requirements, the College of Arts and Sciences distribution requirements, the requirements for a major, and the requirements for a minor or minors if required by the major.

### Requirements for the Bachelor of Science Degree

The bachelor of science degree is characterized by a strong prescriptive major, an essential scientific base, and the inclusion of a general liberal education as an important aspect of the degree. Requirements for the BS are the same as those for the BA, with the following exceptions:

#### The Major

The major must include between 50-70 credit hours including required collateral courses in other departments. For students who wish to acquire two majors in two departments, the

departments will be asked to make some accommodation for the students.

#### Scientific Base

In addition to University ACE requirements and the College distribution requirements, a student must complete 60 semester hours in mathematics and natural sciences, including:

1. At least one of the following quantitative courses: CSCE 235, MATH 104, PHIL 211, or any mathematics or statistics course numbered 106 or above, except MATH 200 and 201.

2. At least one natural or physical science course and at least 1 credit of laboratory work, taken as part of a course or separately, from the following departments: biochemistry, biological sciences, chemistry, geosciences, or physics and astronomy, ANTH 242/242L, GEOG 155, and the following geography techniques courses also apply: GEOG 317, 412, 414, 415, 417, 418, 419, 420, 422 and 425. Other courses that may be applied toward the 60 hour total include courses in actuarial science for which calculus or above is a prerequisite and up to 12 hours of scientific and technical courses offered by other colleges with approval of the academic adviser.

## Areas of Study for the Major and Minor

#### The Major

Students are advised to choose a major before the end of the sophomore year to avoid extending the period of time necessary to complete the degree. By gaining a deeper knowledge of one field, the student will further his or her general liberal education, prepare for a career in his or her specialization, and possibly advance to graduate work or a professional program. It is sometimes possible, through careful planning, for students to complete more than one undergraduate major. Students should consult their advisers about this possibility. The student who majors in more than one field will be assigned to an adviser in each field.

If a student receives a grade lower than C in a course in his or her chosen major, it will not count toward the major.

Students must complete at least 1/2 of the course work in their chosen major field in residence including 6 hours above 299, regardless of the number of hours transferred.

#### The Minor

The requirement of minors is variable within the College and depends upon the student's major department. Some departments require either one or two minors, and other departments require none. Two minor plans are available.

**Plan A.** Students must complete at least 6 hours of course work in a Plan A minor in residence regardless of the number of hours transferred.

**Plan B.** Plan B minors consist of either two minors which are completed with fewer hours in each subject than required for a single Plan A minor or two majors and one Plan B minor. Hour requirements

for individual Plan B minors are stated in each department's or program's listings.

#### Minors in Other Colleges

A student with a major leading to a bachelor of science or bachelor of arts degree in the College of Arts and Sciences who wants to obtain a minor in another college should use the following procedure in making his/her request:

1. In consultation with the student's major adviser, prepare the list of courses required for the other college's minor as indicated in the bulletin.
2. Submit the College-Degree-Major-Adviser Change form to the College of Arts and Sciences Advising Center prior to the deadline for submitting the application for graduation.

Students who have questions related to the minor after it is declared should consult an adviser in the college through which it is offered. The minor will be recorded on the student's transcript.

## Areas of Study

The College of Arts and Sciences offers study toward the major and minor in many areas. Specific requirements for each area of study are listed with the course descriptions in the alphabetical department and area listings in this bulletin. In addition to the listed areas, the integrated studies option (see "Individualized Program of Studies (IPS)" on page 187) allows even more flexibility in the choice of a major study area.

A summary of the major and minor areas of study for degrees offered by the College of Arts and Sciences includes:

### Bachelor of Arts and Bachelor of Science

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## College of Arts and Sciences—Areas of Study

Information concerning each of the College's areas of study is presented in this section in the following sequence:

1. Department or area name,
2. Department Chair and department address and teaching professors,

3. General information,
4. Pass/no pass regulations regarding major and minor work,
5. Requirements for a major in the area of study,
6. Requirements for a minor or minors in the area of study, and
7. Detailed description of courses.

For complete and current information on chief advisers for majors, minors, and pre-professional areas, contact the Arts and Sciences Advising Center, 107 Oldfather Hall, 472-4190.

## Actuarial Science

**Director and Professor of Practice:** Warren Luckner, 210 CBA

**Professor:** Ramsay

**Associate Professor:** Mashayekhi

**Assistant Professor of Practice:** Vagts

The actuarial science program covers all of the mathematical topics on the Society of Actuaries preliminary education syllabus. All students majoring or minoring in actuarial science can take advantage of the benefits of being in the program such as summer internships, career guidance, job placement, and participation in the Actuarial Club. Most students select one of the following: 1) major in actuarial science in the College of Arts and Sciences or in the College of Business Administration; or 2) minor in actuarial science and major in mathematics, economics, or integrated studies in the College of Arts and Sciences.

See the College of Business Administration section of this bulletin for a description of the major in that college.

No course may be taken Pass/No Pass.

## Requirements for the Major in Actuarial Science

The major must include a complete calculus sequence (MATH 106-107-208, or 108H-109H, or the equivalent); and the following statistics and probability sequence: STAT 380, 462, 463 and 22 semester hours of actuarial science. (See actuarial science adviser for specified courses in actuarial science.) Students must complete STAT 462 before taking any 400-level actuarial science course except ACTS 440; STAT 463 may be taken concurrently with ACTS 470.

## Requirements for the Minor in Actuarial Science

**Plan A.** Requires 15 hrs of actuarial science plus prerequisite mathematics and statistics courses.

**Plan B.** Requires 12 hrs of actuarial science plus prerequisite mathematics and statistics courses.

## Courses of Instruction (ACTS)

**399. Independent Study** (1-3 cr) Prereq: Permission.

**401. Problem Lab: Basic Actuarial Applications of Probability** (1 cr) Lab 1. Prereq: MATH 208/208H and STAT 462, or parallel, and both with a grade of "Pass" or "C" or better. Calculus-based probability, both univariate and multivariate, applications to risk management-related problems. Problems as posed in the *Society of Actuaries (SOA) Exam "P"* and/or *Casualty Actuarial Society (CAS) Exam "1"*. Determination of loss frequency distributions and their characteristics, expected value, variance, and percentiles. Determination of loss severity distributions and their characteristics, expected value, variance, and percentiles. Determination of loss sharing parameters, deductibles, and maximum payments.

**402. Problem Lab: Basic Actuarial Applications of Financial Mathematics** (1 cr) Lab 1. Prereq: ACTS 440/840 or parallel. Application of basic mathematics of finance to problems involving valuation of financial transactions. Problems as posed in the *Society of Actuaries (SOA) Exam "FM"* and/or *Casualty Actuarial Society (CAS) Exam "2"*. Determining equivalent measures of interest; estimating the rate of return on a fund; discounting or accumulating a sequence of payments with interest; determining yield rate; length of investment; amounts of investment contributions or amounts of investment returns for various types of financial transactions; and basic calculations involving yield curves, spot rates, forward rates, duration, convexity, immunization and short sales; introduction to financial derivatives (forwards, options, futures, and swaps) and their use in risk management; and introduction to the concept of no-arbitrage as a fundamental concept in financial mathematics.

**403. Problem Lab: Actuarial Models—Life Contingencies** (1 cr) Lab 1. Prereq: ACTS 470/870, 471/871, and 473/873. Problems as posed in the *Society of Actuaries (SOA) Exam "M"* and/or *Casualty Actuarial Society (CAS) Exam "3"*. Survival and severity models; *Markov Chain* models; life contingencies; and *Poisson* processes.

**404. Problem Lab: Construction and Evaluation of Actuarial Models** (1 cr) Lab. Prereq: ACTS 410 and 425. Problems as posed in the *Society of Actuaries (SOA) Exam "C"* and/or *Casualty Actuarial Society (CAS) Exam "4"*. Construction of empirical models; construction and selection of parametric models; credibility theory; interpolation and smoothing of data; and simulation.

**405. Problem Lab: Actuarial Models—Financial Economics** (1 cr) Lab 1. Prereq: ACTS 440/840 and FINA 407/807. Problems as posed in the *Society of Actuaries (SOA) Exam "M"*. Interest rate models; rational valuation of derivative securities (option pricing: put-call parity, the binomial model, Black-Scholes formula, and actuarial applications; interpretation of option Greeks and delta-hedging; features of exotic options; and introduction to Brownian motion and It<sup>TM</sup>'s lemma); and risk management techniques.

**410/810. Introduction to Credibility, Smoothing of Data, and Simulation** (3 cr) Lec. Prereq: STAT 463. Full, partial, *Buhlmann*, and *Buhlmann-Straub* credibility models. Introduction to empirical *Bayes* and statistical distributions used to model loss experience. Application of "polynomial splines" to actuarial data. Simulation of "discrete" and "continuous random" variables in context of actuarial models. Simulation to "p-value" of hypothesis test. "Bootstrap method" of estimating the "mean squared error" of an estimator.

**425/825. Survival Models** (3 cr) Lec. Prereq: STAT 463 with a grade of "C" or better. Parametric and tabular survival models. Estimation based on observations that might not be complete. Concomitant variables. Use of population data. Applications to groups with impaired lives.

**430/830. Actuarial Applications of Applied Statistics** (3 cr) Lec. Prereq: STAT 463 with a grade of "C" or better. *Data sets processed and analyzed using statistical software*. Introduction to forecasting in actuarial science. Simple and multiple regression, instrumental variables, time series methods, and applications of methods in forecasting actuarial variables. Interest rates, inflation rates, and claim frequencies.

**440/840. Financial Mathematics** (4 cr) Lec. Prereq: MATH 208 with a grade of "Pass" or "C" or better, or parallel. Application of financial mathematics to problems involving

valuation of financial transactions; equivalent measures of interest; rate of return on a fund; discounting or accumulating a sequence of payments with interest; and yield rates, length of investment, amounts of investment contributions or amounts of investment returns for various types of financial transactions; loans and bonds. Introduction to the mathematics of modern financial analysis. Calculations involving yield curves, spot rates, forward rates, duration, convexity, immunization and short sales; introduction to financial derivatives (forwards, options, futures, and swaps) and their use in risk management; and introduction to the concept of no-arbitrage as a fundamental concept in financial mathematics.

**442/842. Principles of Pension Valuation (3 cr)** Lec. Prereq: ACTS 471/871 with a grade of "C" or better. Actuarial cost methods. Determination of normal costs and accrued liability. Effect on valuation results due to changes in experience, assumptions and plan provisions. Valuation of ancillary benefits. Determination of actuarially equivalent benefits at early or postponed retirement and optional forms of payment.

**450/850. Stochastic Processes for Actuaries (3 cr)** Lec. Prereq: STAT 463 with a grade of "C" or better. Introduction to stochastic processes and their applications in actuarial science. Discrete-time and continuous-time processes; Markov chains; the Poisson process; compound Poisson processes; non-homogeneous Poisson processes; arithmetic and geometric Brownian motions. Applications of these processes in computation of resident fees for continuing care retirement communities. Pricing of financial instruments.

**470/870. Life Contingencies I (3 cr)** Lec. Prereq: ACTS 440 and STAT 462, each with a grade of "C" or better. *First course of a two-course sequence that includes ACTS 471.*

Theory and applications of contingency mathematics in the areas of life and health insurance, annuities, and pensions. Probabilistic models.

**471/871. Life Contingencies II (3 cr)** Lec. Prereq: ACTS 470 and STAT 462, each with a grade of "C" or better. *Second course of a two-course sequence that includes ACTS 470.*

Life insurance reserve for models based on a single life. Introduction to multiple life models for pensions and life insurance and to multiple decrement models.

**473/873. Introduction to Risk Theory (3 cr)** Lec. Prereq: STAT 462 with a grade of "C" or better.

Applications of compound distributions in modeling of insurance loss. Continuous-time compound Poisson surplus processes, computation of ruin probabilities, the distributions of the deficit at the time of ruin, and the maximal aggregate loss. The effect of reinsurance on the probability of ruin.

**475/875. Actuarial Applications in Practice (3 cr)** Lec 3. Prereq: ACTS 471; FINA 307/307H or 338.

Principles and practices of pricing and/or funding and valuation for life, health, property and liability insurance, and annuities and pension plans. Commercially available actuarial modeling software.

**860. Loss Distribution (3 cr)** Prereq: STAT 463.

**899. Masters Thesis (6-10 cr)**

Refer to the Graduate Bulletin for 900-level courses.

## Aerospace Studies

(Minor only)

**Department of Aerospace Studies: Lt. Colonel Scott D. Vilter, U.S. Air Force**, Professor of Aerospace Studies, 209 Military and Naval Science Building

### Air Force ROTC

The preparation of future Air Force officers is provided through the Air Force ROTC program. Enrollment is open to any student attending the University on a full-time basis. The curriculum provides the individual with a firm understanding of the concepts of aerospace power and the Air Force mission, organization and operations.

Enrollment in AFROTC is voluntary and accomplished through the fall and spring registration periods. Scholarships are available in many academic disciplines on a competitive basis. Approximately seventy percent of the students hold scholarships. Approximately one-fourth of the cadet corps consists of women. All Air Force career fields are open to women, including pilot positions.

### General Program

Both the two- and four-year Air Force ROTC programs are offered. The program consists of the General Military Course (GMC) during the freshman and sophomore years and the Professional Officer Course (POC) for the remaining two years of college. Those students who do not participate in the GMC will complete a six-week summer field training period for this requirement. Four-year cadets participate in a four-week training period during the summer between their sophomore and junior years.

### Minor in Aerospace Studies (Joint Military Studies)

The minor in Aerospace Studies is offered to any student completing the courses of study listed below. The minor not only prepares cadets for active duty service but provides any student the opportunity to study one of our country's major instruments of power, the United States Military. In addition to studying Air Force organizations, missions and operations, the student will gain a broad perspective of the military in general by studying the history of all Department of Defense Services, thus emphasizing our country's focus on Joint Military Operations.

### Course Requirements (18 cr)

1. AERO 331, 332, 441, 442 (total 12 cr)
2. 3 cr from the following: MNGT 320, 360, 361, 428, 464, 465, or 466
3. 3 cr from the following: HIST 303, 304; GEOG 272; POLS 160, 260, 360, 363, 462

### Active Duty Obligation

There is no active duty obligation for enrolling in any AFROTC courses, unless a student wishes to become an Active Duty Air Force Officer or accepts an Air Force Scholarship. Students who complete the Air Force ROTC program and receive a commission, incur a four-year active duty commitment. Flying officers serve additional commitments from the time they complete their training.

## African American and African Studies

(Minor only)

**Coordinator and Undergraduate Adviser for African American and African Studies: Lory Dance**

**Faculty:** Beyene (anthropology & geography/ethnic studies), Combs (political science), Curry (history/ethnic studies), Dance (sociology/ethnic studies),

Dreher (English/ethnic studies), Goosby (sociology), Hinchman (architecture), J. Jones (history/ethnic studies), P. Jones (history/ethnic studies), Norton (journalism), Oakley (English), Peterson (agricultural economics), Rinkevich (classics), Rutledge (English/ethnic studies), Shavers (law)

African American and African Studies includes two minors: African Studies and African American Studies.

The African Studies minor affords students the opportunity of widening their academic horizons to include a part of the world that, because of its past and continuing relevance to the American continents, deserves study. The minor will contribute to the students' understanding of the diverse peoples and cultures of Africa, their awareness of the relativity of cultures, and, ultimately, to a better understanding of their own society. The minor, which is interdisciplinary, will appeal not only to students in the humanities, social sciences, and education, but also to students who plan to do international work.

### Requirements for the Minor in African Studies

**Plan A.** At least 18 hours (from at least two departments) from among the courses listed below, including independent study and special topics approved by the minor adviser.

**Plan B.** At least 12 hours (from at least two departments) from the courses listed below, and any University Studies courses offered with an African emphasis, including independent study and special topics approved by the minor adviser.

- ANTH 362. Peoples & Cultures of Africa (3 cr) (ETHN 362)  
 ETHN 150. African Culture & Civilization (HIST 150) (3 cr)  
 ETHN 244A. African Literature (ENGL 244A) (3 cr)  
 ETHN 244B. Black Women Authors (ENGL/WMNS 244B) (3 cr)  
 ETHN 244D. African-Caribbean Literature (ENGL 244D) (3 cr)  
 ETHN 485. Africa Since 1800 (HIST 485/885) (3 cr)  
 ETHN 486. History of South Africa (HIST 486) (3 cr)  
 POLS 260. Problems in International Relations (3 cr)  
 POLS 474/874. African Politics (3 cr)

The minor in African American Studies is designed to expose students to a program of study concerning African American culture, life, and history in the United States as well as the African experience on the continent and/or in the Diaspora.

### Requirements for the Minor in African American Studies

- Core Course: ETHN 200 Intro to African American Studies (3 cr)
- At least 15 hours (from at least three departments) from the following courses (*other courses may be used with the approval of the minor adviser*):

- ANTH 362. Peoples & Cultures of Africa (3 cr) (ETHN 362)  
 ETHN 150. African Cultural & Civilization (HIST 150) (3 cr)

- ETHN 212. Intro to Cultural Anthropology (ANTH 212) (3 cr)  
 ETHN 217. Nationality & Race Relations (SOCI 217) (3 cr)  
 ETHN 238. Blacks & the American Political System (POLS 238) (3 cr)  
 ETHN 244. African-American Literature (ENGL 244) (3 cr)  
 ETHN 244B. Black Women Authors (ENGL/WMNS 244B) (3 cr)  
 ETHN 244E. Early African American Literature (ENGL 244E) (3 cr)  
 ETHN 306. African American History: African Origins to 1877 (HIST 306) (3 cr)  
 ETHN 330. Multicultural Education (TEAC 330) (3 cr)  
 ETHN 440. The Black Family (3 cr)  
 ETHN 446. Black Social Movements (3 cr)  
 ETHN 481. Minority Groups (SOCI 481) (3 cr)  
 ETHN 485. Africa Since 1800 (HIST 485) (3 cr)  
 HIST 486. History of South Africa (3 cr)  
 MUNM 387. History of American Jazz (3 cr)

## Anthropology

**Chair:** Ray Hames (anthropology and geography), 810 Oldfather Hall

**Professors:** Bleed, Draper, Hames

**Associate Professors:** Athanassopoulos, McCollough, Wandsnider, Willis

**Assistant Professors:** Awakuni-Swetland, Demers, Osborne, Sanchez

**Lecturer:** Beyene

Courses in anthropology are designed to acquaint the student with the range of human behavior and emphasize archaeology, physical anthropology, human biology, linguistics, society and culture, and applied anthropology.

The Department of Anthropology and Geography participates in the programs in African American and African Studies, Asian Studies, Ethnic Studies, Environmental Studies, Great Plains Studies, International Studies, Latino and Latin American Studies, Native American Studies, and Women's and Gender Studies.

## Requirements for the Major in Anthropology

- 30 hours of anthropology including ANTH 212, 232, 242/242L, and at least 12 hours in courses numbered in the 300- and 400-series. ANTH 110 may not be included in the 30 hours required for the major. Fieldwork is recommended. Only 6 credits total of 290 and 490 may count toward the major. Only 3 credits of 291 or 491 may count toward the major. A minor may be chosen from any minor offered by the College of Arts and Sciences.

**Program Assessment.** In order to assist the department in evaluating the effectiveness of its program, majors will be required in their senior year:

- To complete an oral examination which focuses on the breadth of the field as well as on the student's field of specialization.
- To complete a written exit survey, submitted anonymously.

The undergraduate adviser will inform students of the scheduling and format of assessment activities. Results of participation in these assessment activities will in no way affect a student's GPA or graduation.

## Requirements for the Minor in Anthropology

- Requires 18 hours of anthropology including ANTH 110; at least one of the 200-level core courses in anthropology (ANTH 212 Introduction to Cultural Anthropology, 232 Introduction to Archaeology, or 242 Introduction to Physical Anthropology); and, at least one 300- or 400-level anthropology course. Up to 6 hours of field study (ANTH 290, 291, 490, 491) and 6 hours of advanced Native language (ANTH 204, 205, 210) courses may apply. Excluded courses: ANTH 104, 105, 130.

**Recommendations.** Because of the broad and interdisciplinary nature of anthropology, we recommend that majors select additional courses outside the department to enhance their appreciation of and improve their skills in related disciplines. The student's adviser will make specific course recommendations in keeping with individual needs and interests.

**Graduate Work.** The Department of Anthropology offers graduate work leading to the master of arts degree. A description of the program appears in the *Graduate Studies Bulletin*.

## Courses of Instruction (ANTH)

(ACE 6, 9) [ES] 110 [110c]. **Introduction to Anthropology** (3 cr) Introduction to the study of society and culture, integrating the four major subfields of anthropology: archaeology, cultural anthropology, linguistics, and physical anthropology.

[ES] 130 [130c]. **Anthropology of the Great Plains** (3 cr) An introductory survey of the peoples and cultures who have lived in the Great Plains. It assumes no detailed knowledge of anthropological concepts and methods. North American and Euroamerican Plains life-styles from the prehistoric past, early historic, and modern periods. Emphasis on the ways different people used and adapted to the Plains. Common themes and artifacts of Plains people given special treatment.

[ES] 170. **Introduction to Great Plains Studies** (GEOG, GPSP, NRES, SOCI 170) (3 cr) *Required for Great Plains Studies majors and minors.* For course description, see GPSP 170.

[ES][IS] 189H. **University Honors Seminar** (3 cr) Lec. Prereq: Good standing in University Honors Program or by invitation. *University Honors Seminar is required of all students in the University Honors Program.* Topics vary.

## Introductory

(ACE 6) [ES][IS] 212 [212c]. **Introduction to Cultural Anthropology** (ETHN 212) (3 cr)

Introduction to ethnology and its subfields. Standard topics, problems, and theories considered in ethnology, social anthropology, culture and personality, and applied anthropology.

(ACE 4) [ES][IS] 232 [232c]. **Introduction to Prehistory** (3 cr) Introduction to what archaeologists do and what they have learned about human prehistory. The first half of the course emphasizes the methods archaeologists use to study the past. The second half traces the record of human developments up to the rise of cities.

(ACE 4) [ES][IS] 242. **Introduction to Physical Anthropology** (3 cr) Prereq: Parallel ANTH 242L.

The scope and objectives of physical anthropology, the primate life cycle, human biology, fossil man, contemporary races, techniques of anthropometry.

[ES] 242L. **Introduction to Physical Anthropology Laboratory** (1 cr) Lab. Prereq: Parallel ANTH 242.

Laboratory exercises and analyses that complement material covered in ANTH 242.

## Cultural Anthropology

[ES] 104. **Native Language I** (ETHN 104) (5 cr) Lec, lab.

Introduction to the fundamentals of an indigenous language. Emphasis on conversational speaking and listening skills. Historic and contemporary writing systems. The indigenous community's society, culture, and history through interface with the language. Specific languages include the following:

A. **Omaha I** (ETHN 104A) (5 cr)

[ES] 105. **Native Language II** (ETHN 105) (5 cr) Lec, lab. Prereq: ANTH/ETHN 104.

Continuation of ANTH/ETHN 104. Continued conversational speaking and listening skills with emphasis on syntax and pragmatics. Expanded reading and writing. Traditional oral narratives and written texts, norms, beliefs, and values. Contemporary indigenous community's society, culture, and history through interface with the language. Specific languages include the following:

A. **Omaha II** (ETHN 105A) (5 cr) Prereq: ANTH/ETHN 104A.

[ES] 204. **Native Language III** (ETHN 204) (3 cr) Lec, lab. Prereq: ANTH/ETHN 105.

Continuation of ANTH/ETHN 105. The written indigenous language. Key theories of translation and linguistics. Contemporary indigenous language revival and language maintenance efforts. Collaborative language curriculum work with the indigenous community. The indigenous community's contemporary society and culture. Specific languages include the following:

A. **Omaha III** (ETHN 204A) (3 cr) Prereq: ANTH/ETHN 105A.

[ES] 205. **Native Language IV** (ETHN 205) (3 cr) Lec, lab. Prereq: ANTH/ETHN 204.

Continuation of ANTH/ETHN 204. Production of oral and written language materials for academic and indigenous community applications. Contemporary indigenous community's society and culture through dialogues with community leaders. Specific languages include the following:

A. **Omaha IV** (ETHN 205A) (3 cr) Prereq: ANTH/ETHN 204A.

**210. Accelerated 2nd Year Native Language** (ETHN 210) (6 cr) Lec 6. Prereq: ANTH/ETHN 105. *ANTH 210 is a continuation of ANTH 105.*

Language competence and performance. Production of oral and written language materials. Linguistic methods of translation. Collaborative language curriculum work with the Indigenous community. Interface with the indigenous community's contemporary society and culture:

A. **Accelerated 2nd Year Omaha** (ETHN 210A) (6 cr) Lec 6. Prereq: ANTH/ETHN 105A. *ANTH 210A is a continuation of ANTH 105A. A minimum of four outside-of-class activities (on weekends) and an approximate one-half hour meeting each week with the instructor (in a "one-on-one" situation) is required.*

**350. Peoples and Cultures of Native Latin America** (ETHN 350) (3 cr) Lec 3. Prereq: 6 hrs social science.

Introduction to the ethnography of native Latin America outlining the history and lifeways of indigenous peoples of the region. Indigenous culture, and change and resistance to European colonialism from the pre-Columbian through modern periods. Contemporary indigenous political organizing around issues of human and culture rights, the effects of globalization, and the environment.

[ES] 351. **Indigenous Peoples of North America** (ETHN 351) (3 cr) Lec 3. Prereq: 3 hrs of ANTH.

Overview of the pre-contact, contact and post-contact experiences of indigenous peoples of North America.

[ES] 352. **Indigenous Peoples of the Great Plains** (ETHN 352) (3 cr) Lec 3. Prereq: 3 hrs ANTH.

Overview of the pre-colonial, colonial and post-colonial experiences of indigenous peoples of the Great Plains region in North America.

**[ES] 353. Anthropology of War (3 cr)**

Causes, conduct, and consequences of socially organized aggression and combat; an evolutionary survey of "warfare" as conducted by insects, nonhuman primates, and human societies from simple hunting and gathering bands to modern states; anthropological, sociological, psychological, and evolutionary biological theories of the causes of warfare; the relationship between warfare and demography, disease, ideology, colonialism, technology, economy and child rearing; and the nature of societies with no record of war and the mechanisms utilized by warlike societies to create peace. Warfare in different times, places, and levels of social complexity.

**[ES] 362. Peoples and Cultures of Africa (ETHN 362) (3 cr)**

Lec 3. Prereq: 3 hrs ANTH. Introduction to the ethnological complexity and cultural diversity of the native ways of life based on the ethnographies of several differing peoples in relation to the areal cultural patterns in contrasting geographical regions. Relations to other portions of the world in culture history and colonial relations.

**363. Peoples and Cultures of the Arctic Regions (3 cr)**

Advanced survey of indigenous cultural adaptations to boreal environments.

**[ES] 366. Peoples and Cultures of East Asia (3 cr)** Prereq: 6 hrs of social sciences.

Survey of the historic and recent cultural diversity of the East Asian cultural sphere. The historical development of Chinese, Japanese, and Korean cultures through recent modernization is reviewed and other neighboring and minority cultures are described. Recognizing the central role of Chinese civilization, a main emphasis is upon the interaction between it and surrounding cultures.

**[ES][IS] 408/808. Cross-Cultural Mentoring I (WMNS 408/808) (3 cr) Fld. ANTH/WMNS 408/808 requires weekly meetings with mentee. Pairs UNL student with a refugee and/or immigrant and/or minority K-12 student or adult.**

Work with a refugee and/or immigrant and/or minority K-12 student or adult to assist them with the culture transition process, the educational process, problem-solving techniques, and community resources.

**[ES][IS] 409/809. Cross-Cultural Mentoring II (WMNS 409/809) (3 cr) Fld. Prereq: ANTH/WMNS 408/808. Requires weekly meetings with mentee. Continuation of ANTH/WMNS 408/808.**

Continuation of work with a refugee and/or immigrant and/or minority K-12 student or adult to assist them with the educational process and/or culture transition.

**410/810. Women and Men: An Anthropological Perspective (WMNS 410/810) (3 cr) Lec 3. Prereq: 9 hrs ANTH.**

Cross-cultural meaning and impact of gender definition, with emphasis on women. Gender as a correlate of biology, language, economic systems, social and political structures, and belief systems.

**[IS] 412/812. Social Structure (3 cr) Lec 3. Prereq: ANTH 212.**

Social structure, kin, and local groups.

**416/816. Topics in Cultural Anthropology (3 cr) Prereq: ANTH 212 or permission.**

Advanced study of selected topics in cultural anthropology.

**418/818. Ethnology and Museums (3 cr) Prereq: 12 hrs anthropology.**

An approach to the museum as it relates to the growth of anthropology in general and ethnological studies in particular. Emphasis on the study of non-Western technology and its role in the modern museum.

**419/819. Art and Anthropology of Native North Americans (3 cr)**

Survey of Native American art, its prehistoric origins, historical development and recent artistic activity in the principal regions of North America. The context of art in traditional culture and the cultural milieu in which change took place. Artistic media considered are: ceramics, textiles, sculpture, basketry, bead and quill work. Powwows and fairs as important venues for presentation of contemporary Native American art.

**420/820. Ethnic Identity and Ethnic Conflict (3 cr)**

Concept of ethnicity and ethnic groups. Reviews how ethnic groups emerge and ethnic relations affect the modern nation state. Several ethnic conflicts reviewed and examined, accompanied by discussion of the dynamics of each of these situations. How ethnic identity is formed, adjusted and recreated.

**[IS] 437/837. Borders and Frontiers (3 cr) Lec 3.**

Social and spatial processes of borders and frontiers through historical and contemporary articulations between local, national, and global orders. Commonalities of frontier and border experiences worldwide. Frontiers in the North American and global experience, border formation and maintenance case studies, contemporary issues of globalization, indigenous peoples, conflict and/or cooperation, natural resources, and ethnic identity.

**[IS] 451/851. Contemporary Issues of Indigenous Peoples in North America (ETHN 451) (3 cr) Lec 3. Prereq: ANTH 351 or 352.**

Political, economic, and social issues concerning indigenous peoples in North America.

**454/854. Traveling Ethnographic Field School (3-6 cr) Prereq: ANTH 212 or upper division anthropology course, and permission.**

Advanced comparative study of the contemporary populations in a selected area of North America (occasionally outside of the US) that combine the traditional survey of ethnographic literature with personal observation and participation in rural, urban, or traditional settings. Ethnographic focus (e.g., Native Americans or recent immigrants to the US) changes depending on research opportunities.

**472/872. Belief Systems in Anthropological Perspective (3 cr)**

Prereq: 12 hrs anthropology.

Cross-cultural examination of the structure, form, and functions of belief systems. Emphasis on the interrelationship between the ideological subsystem of a culture and its social, political, and economic organization. Primitive and contemporary societies.

**473/873. Ecological Anthropology (NRES \*873) (3 cr) Lec.**

Human adaptive systems and their ecological contexts. The dynamic inter-relationships between subsistence, technology, social behavior, human demography, and ecological variability.

**474/874. Applied and Development Anthropology (3 cr) Lec 3.**

Prereq: ANTH 212.

Efforts by anthropologists and other trained specialists to influence the process of development and socioeconomic change in the modern world.

**475/875. Primitive Technology (3 cr) Lec 3. Prereq: 9 hrs ANTH.**

Survey of the major technologies and industrial complexes of the prehistoric and primitive worlds. Through examination of artifacts, gain familiarity with the ways preindustrial people have manipulated the environment. Develop skills necessary to analyze technology within its cultural setting.

**[IS] 476/876. Human Rights, Environment, and Development (3 cr) Lec 3. Prereq: ANTH 212.**

Human rights from an anthropological perspective. International human rights, development, and the environment; Western and non-Western perspectives on human rights; individual rights and collective (group) rights; social, economic, and cultural rights; women's rights; gay rights; indigenous peoples and minority groups' rights; and planetary (environmental) rights. Rights to food, culture, development, and a healthy ecosystem.

**[IS] 477/877. Hunters-Gatherers (3 cr) Lec 3. Prereq: 9 hrs ANTH including ANTH 212.**

Survey of hunter-gatherer society and its ecological and social adaptations. Hunters-gatherers and their important role in human history and evolution.

Refer to the Graduate Bulletin for 900-level courses.

## Archaeology

**(ACE 6, 9) [ES][IS] 252. Archaeology of World Civilizations (CLAS 252) (3 cr)**

Introduction to complex societies, called civilizations, in both the Old and the New Worlds. Anthropological theories and models dealing with the evolution of cultural complexity and review of archaeological data from specific regions, e.g. Near East, Far East, Mediterranean, Europe, Mesoamerica, Peru, etc.

**[ES] 272. Introduction to Historical Archaeology (3 cr) Lec 3.**

Archaeological study of peoples and cultures in recorded history, material remains, and written evidence. Fuses theoretical and methodological approaches of anthropology, archeology, and history to understand local historical events and broader social processes of the recent past.

**[IS] 432/832. History and Theory of Archaeology (3 cr) Lec 3.**

Prereq: 12 hrs ANTH.

Current concepts and theories used in archaeology to interpret the archaeological record.

**433/833. North American Archaeology (3 cr) Lec 3. Prereq: 9 hrs ANTH including ANTH 232.**

An areal survey of North American archaeology, methodology, history, and current trends of research. North American prehistory from earliest occupations to the Contact Period.

**434/834. Introduction to Great Plains Archaeology (3 cr) Lec 3.**

Prereq: 9 hrs ANTH including ANTH 232.

Introduction to the history of archaeological research, taxonomic issues, cultural sequences, and current research topics within the Great Plains area of North America.

**435/835. Introduction to Heritage Management Archaeology (3 cr) Lec 3. Prereq: ANTH 232.**

Introduction to the nature and purpose of historic preservation as it pertains to resource management and archaeological research. Legislation that forms the basis for: cultural resource management principles; integration of state programs; and archaeological contractors; within the overall framework of land modification planning.

**436/836. The Ancient Maya (LAMS 436) (3 cr) Lec.**

Introduction to the prehistory of the Maya region and its periphery. Features of the Ancient Maya political, economic, religious, gender and material structures. Main substantive, theoretical and political debates in Mesoamerican scholarship. Interdisciplinary research and the types of methods used to create knowledge about Maya civilizations.

**438/838. Topics in Old World Prehistory (CLAS 438/838) (3 cr) Lec 3. Prereq: ANTH 242 or equivalent.**

Topics drawn from the wide breadth of Old World prehistory. Archaeological data relevant to selected theoretical or topical problems.

**[ES] 439/839. Archaeology of Preindustrial Civilizations (3 cr) Prereq: 12 hrs anthropology.**

Development and organizational variability of past preindustrial civilizations. State formation and their evaluation through use of the archaeological record. Exposure to general archaeological and anthropological problems posed by complex societies. Data bases include preindustrial civilizations from Mesopotamia, Africa, Egypt, India, China, Japan, Polynesia, Mexico, and Peru.

**481/881. Landscape Archaeology (4 cr) Lec, lab.**

Survey of theory, method, and practice in describing and interpreting archaeological landscapes.

**487/887. Analysis of Archaeological Materials (4 cr, max 16) Lec, lab. Prereq: ANTH 232. ANTH 487/887 may be repeated.**

Topics vary by semester. Survey of vocabulary, techniques, and ideas needed to research major materials found in archaeological sites.

**A. Ceramics (4 cr)****B. Lithics (4 cr)****C. Archaeofauna (4 cr)****D. Historic Material Culture (4 cr)****\*894. Internship in Professional Archaeology (1-6 cr, max 6) Fld. Prereq: 9 hrs ANTH.**

Refer to the Graduate Bulletin for 900-level courses.

## Biological Anthropology

**[IS] 422/822. Medical Anthropology (3 cr)**

Culture as it affects health care, disease transmission and prevention and health education.

**[IS] 430/830. Nutritional Anthropology (NUTR 430/830) (3 cr) Lec 3. Prereq: ANTH 242 or equivalent.**

Anthropological approaches to the study of nutrition. Background to nutrition science; bio-cultural aspects of obesity, fertility, lactose intolerance, and infant feeding practices; biological differences in nutritional requirements, fertility, and mortality; interpretation of nutritional deficiencies in skeletal remains; reconstructing prehistoric diets from archaeological evidence; and evaluation of relationships between dietary patterns and dental remains in fossil record.

(ACE 9, 10) [IS] 442/842. **Human Variation** (3 cr) Lec 3. Biological variation of modern humans worldwide through time and space. Standard measurements of phenotypic, e.g. elementary anthropometry. Biological adaptation to environment using recent theoretical perspectives.

**448/848. Human Growth and Development** (BIOS 448/848) (3 cr) Lec 3. Prereq: ANTH 242 and 242L, or BIOS 101 and 101L. Biological diversity from an evolutionary perspective. The history of the study of human physical growth and biological principles of growth. Genetic, epigenetic and hormonal effects on human and other mammal growth patterns, and environmental factors that influence growth. Effects of nutrition, disease, socio-economic status, pollution, etc. Unique features of human growth in its various stages. How anthropologists interpret variation in growth patterns among human populations and the possible adaptive significance of this variation.

Refer to the Graduate Bulletin for 900-level courses.

## Laboratory and Field Training

**290. Fieldwork** (1-6 cr, max 24) Fld. Prereq: Permission. Only 6 cr hours of ANTH 290 are allowed toward the ANTH major. Participation in research projects to learn basic field techniques and the relationship between research design and execution.

**291. Laboratory Work in Archaeology** (1-6 cr, max 24) Lab, fld. Prereq: Permission. Only 3 hours of ANTH 291 are allowed toward the ANTH major. Practical experience in the preparation and manipulation of archaeological materials. Experience gained through participation in faculty-guided laboratory projects.

**483/883. Advanced Field Methods** (3 cr) Prereq: Permission. Preparation for fieldwork through study of the philosophical and practical problems of anthropological field research. When appropriate, small-scale fieldwork exercises are planned, executed, and analyzed.

[IS] **484/884. Quantitative Methods in Anthropology** (3 cr) Lec 3. Prereq: 9 hrs ANTH; STAT 218 or equivalent. Collection, management, and analysis of quantitative anthropological data. Methods of exploratory and confirmatory data analysis. Computer-assisted analysis.

[IS] **486/886. Community-Based Research and Evaluation** (ETHN 487) (3 cr) Prereq: ANTH 212. Qualitative ethnographic field and research projects. The observation, documentation, data analysis, and theory behind selected research designs. Community-based organizations, agencies, and development advocacy projects.

**490/890. Advanced Fieldwork** (1-6 cr, max 24) Fld. Prereq: ANTH 290 or equivalent. Credit toward the ANTH major may be earned in only one of: ANTH 290 or 490. Further practical experience in field research.

**491/891. Advanced Laboratory Work** (1-6 cr, max 24) Lab, fld. Prereq: Permission. Only 3 credit hours of ANTH 491 will count toward the major in ANTH. Open only to advanced students wishing to complete a research project they have developed with ANTH faculty guidance.

## Integrative Courses, Research and Reading

[ES] **261. Conflict and Conflict Resolution** (POLS, PSYC, SOCI 261) (3 cr) For course description, see POLS 261.

**396. Advanced Readings** (1-6 cr, max 6) Prereq: 6 hrs of social science. Tutorial course in areas of special interest.

**399H. Honors Course** (1-4 cr) Prereq: Open to candidates for degrees with distinction, with high distinction, and with highest distinction in the College of Arts and Sciences. Good standing in the University Honors Program and permission.

**417/817. History of Anthropological Theory** (3 cr) Lec 3. Prereq: 9 hrs ANTH.

Origins and developments of anthropological theory, method and thought. Historical growth of the discipline and schools of thought from the Enlightenment through the Contemporary Period.

[IS] **478/878. Pro-seminar in Latin American Studies** (LAMS 478; EDPS, GEOG, HIST, MODL, POLS, SOCI 478/878) (3 cr, max 6) Prereq: Junior standing and permission. *Topical seminar required for all Latin American Studies majors.* An interdisciplinary analysis of topical issues in Latin American Studies.

**479/879. Pro-seminar in International Relations I** (AECN \*467; ECON, POLS, SOCI 466/866; GEOG 448/848; HIST 479/879) (3 cr) Prereq: Permission. Open to students with an interest in international relations.

For course description, see POLS 466/866.

**482/882. Research Methods in Anthropology** (3 cr) Prereq: Permission. *Is strongly recommended to graduate students in all subfields before starting thesis work.*

Introduces advanced students to practical and theoretical issues involved in designing and undertaking anthropological research. The logic and organization of research emphasized.

**485/885. Pro-seminar in Anthropology** (1-3 cr) Prereq: Permission.

**488/888. Contentious Issues in Anthropology** (3 cr) Prereq: 9 hrs of anthropology beyond ANTH 110. Recent controversial issues through the integration of biological, cultural, and archaeological branches of anthropology.

**495/895. Internship in Anthropology** (1-6 cr, max 6) Fld. Prereq: Sophomore standing.

A structured professional experience outside the traditional academic setting designed to allow students to learn and use anthropological skills and knowledge and to develop professional networks.

**496-896. Special Readings in Anthropology** (1-6 cr)

**498/898. Advanced Current Topics in Anthropology** (3 cr) Prereq: Permission. Seminar on current issues and problems in anthropology.

**499. Senior Research Thesis** (1-6 cr, max 6) Ind. Prereq: Senior standing and permission.

**899. Masters Thesis** (6-10 cr)

Refer to the Graduate Bulletin for 900-level courses.

## Archaeology

(Minor only)

**Chair and Chief Adviser: Professor Michael Hoff**, 308 Woods Art Building

**Faculty:** Anthanassopoulos, Bleed, Demers, Sanchez, Scott, Wandsnider (anthropology and geography); Hoff (art and art history); Lynott, Hunt, Nobel (NPS-MWAC)

Modern archaeology studies the origins and growth of basic human institutions. It produces results of importance to researchers in many fields and involves the work of diverse academic areas. Recognizing these broad links, the archaeology minor gives students from diverse disciplinary backgrounds the opportunity to learn the approaches of modern archaeology. It allows students to develop academic strengths that will prepare them for advanced training and careers in the array of fields that make use of archaeological data and methods. Anthropology majors may declare an archaeology minor only if their major program includes at least 9 credits of 300 or 400 cultural or biological anthropology classes.

## Requirements for the Minor in Archaeology

- 18 hours of course work with at least 6 hours each from Lists A, B, and C below and at least two of the departments participating in the minor

### List A

- ANTH 232. Intro to Prehistory (3 cr)  
ANTH 432. History & Theory of Archaeology (3 cr)  
AHIS 211. Classical Art & Archaeology (3 cr)

### List B

- ANTH 290. Fieldwork (1-6 cr each)  
ANTH 490. Advanced Fieldwork (1-6 cr each)

### List C

- ANTH 252. Archaeology of World Civilizations (CLAS 252) (3 cr)  
ANTH 433. North American Archaeology (3 cr)  
ANTH 434. Intro to Great Plains Archaeology (3 cr)  
ANTH 435. Intro to Heritage Resource Management (3 cr)  
ANTH 436. Ancient Maya (3 cr)  
ANTH 438. Topics in Old World Prehistory (CLAS 438) (3 cr)  
ANTH 487A, B, D, E. Analysis of Archaeological Materials (4 cr each)  
AHIS 311. Greek Art & Archaeology (3 cr)  
AHIS 313. Roman Art & Archaeology (3 cr)  
AHIS 411. Classical Architecture (3 cr)  
CLAS 252. Archaeology of World Civilizations (ANTH 252) (3 cr)  
CLAS 281. The World of Classical Greece (ENGL 240A) (3 cr)  
CLAS 320. The Classical World: Archaeology & Texts (3 cr)  
ENGL 240A. The World of Classical Greece (CLAS 281) (3 cr)  
HIST 311. The World of Homer (3 cr)  
HIST 318. The Roman Empire (3 cr)  
HIST 412. City States in Classical Greece (3 cr)

## Asian Studies

(Minor only)

**Director and Chief Adviser: Professor Andrew Wedeman**, 528 Oldfather Hall

**Faculty:** Asato (modern languages), Banks (art history), Bleed (anthropology), Coble (history), Fuess (economics), Guenter (architecture), Harpending (modern languages and literatures), Inutake (modern languages and literatures), Nemeth (educational psychology), Newman (educational psychology), Rapkin (political science), Schmidt (health and human performance), Wedeman (political science)

A minor in Asian studies complements a liberal arts education by providing knowledge about the cultures and other aspects of a major part of the world. A minor also provides the basic background for additional studies of Asia in graduate school. Courses that may apply to the minor are offered by a variety of departments (see the following list), but several classes are not scheduled each semester.

## Requirements for the Minor in Asian Studies

**Plan A.** A minimum of 18 hours selected from the courses listed below and representing a minimum of two departments.

**Plan B.** A minimum of 12 hours selected from the courses listed below and representing a minimum of two departments.

**Program Approval.** The designation of a specific minor must be approved and recorded by the chief adviser for the Asian Studies Committee. Courses designated with an asterisk (\*), which include independent study and special topics, indicate ones that may apply to a minor provided they are approved by the chief adviser.

### Courses that apply to the minor:

AHIS 398\*. Special Topics in Art History  
 AHIS 490. Directed Individual Reading  
 ANTH 366. Peoples & Cultures of East Asia  
 ANTH 396\*. Advanced Readings  
 ANTH 438\*. Topics in Old World Prehistory  
 ANTH 496\*. Special Readings in Anthropology  
 ARCH 450. Survey of Asian Architecture  
 ENGL 243B. Literature of India  
 ENGL 349\*. National Cinemas  
 ENGL 497\*. Independent Directed Reading  
 GEOG 375. Geography of Asia  
 GEOG 398\*. Special Topics in Geography  
 GEOG 399\*. Independent Study in Geography  
 GEOG 498\*. Advanced Special Problems  
 HIST 181. Intro to East Asian Civilization  
 HIST 282. Modern East Asia  
 HIST 298\*. Special Topics in History  
 HIST 381. History of Premodern Japan  
 HIST 382. History of Modern Japan  
 HIST 383. History of Premodern China  
 HIST 396\*. Special Problems  
 HIST 397\*. Special Topics in History  
 HIST 480/880. The Social & Economic History of China Since the Late Ming Era  
 JAPN 101/102. Beginning Japanese  
 JAPN 201/202. Second-Year Japanese  
 MUSC 398\*. Special Topics in Music  
 NUTR 205. Asian Martial Culture  
 POLS 274. Developmental Politics in East Asia  
 POLS 374. Japanese Politics  
 POLS 376. Chinese Politics  
 POLS 398\*. Special Topics  
 POLS 399\*. Individual Readings  
 POLS 464. Political Economy of the Asia-Pacific

**Foreign Study.** The University of Nebraska-Lincoln cooperates with Nanzan University in Nagoya, Japan, in sponsoring an academic exchange program that allows UNL students to pay University of Nebraska tuition, fees, and housing costs here and then earn resident credit while studying for a year in Japan. Interested students should contact the chair for the Asian Studies Committee for more information and application procedures.

## Biological Chemistry

**Director:** Paul Black, N200 Beadle Center

**Professors:** DiRusso, Gladyshev, Lou, Markwell, Nickerson, Parkhurst, Spreitzer, Staswick, Weeks, Wood

**Associate Professors:** Barycki, Becker, Cahoon, Griep, Miner, Sarah, Simpson, Stone, Zempleni

**Assistant Professors:** Bailey, Basset, Fomenko, Lee, Somerville, Wilson

**Professor of Practice:** Madhavan

The Center for Biological Chemistry offers studies leading to either a bachelor of science (BS) or to a combined bachelors and masters degree (BS and MS) in biochemistry. The training offered is suitable for a professional career in biochemistry, which may lead to employment in various industries involved in the manufacture or processing of chemicals, foods, feeds, toiletries, and pharmaceuticals; or federal agencies such as the Food and Drug Administration, US Department of Agriculture, US Public Health Service, and Environmental Protection Agency. The program is also suitable as preparation for graduate studies leading to academic careers in biochemistry and professional careers in medicine, dentistry, veterinary medicine, pharmacy, and health-related fields.

The combined bachelors and masters degree in biochemistry is especially tailored for highly motivated undergraduate students with superior ability who seek additional training to further their career goals. This research thesis-based program is designed to provide opportunities to students to carry out and interpret contemporary research.

**Pass/No Pass.** Students majoring in biochemistry may not take any of the courses required for the major in biochemistry Pass/No Pass except for courses involving independent study, research, and seminars.

## Requirements for the Major in Biochemistry

The required program for a bachelor of science degree, Option II, with a major in biochemistry is:

	Hours
BIOC 101, 431, 432, 433, 435.....	12
BIOS 102, 206, 312, 314 .....	12
CHEM 113, 114, 116, (or 109, 110, 221), 251, 252, 253, 254, (or 261, 262, 263, 264), 471, (or 481).....	21-24
MATH 101 and 102 (or 103, or equivalent preparation), 106 or 106B, 107 .....	10-15
PHYS/ASTR 141, 142 (or 211, 212, 221, 222).....	10
College Distribution Requirements.....	19-25
ACE Learning Outcomes.....	30

Students concerned about their preparation for college-level biology should take BIOS 101 and 101L prior to BIOS 102. Please consult your adviser if in doubt.

Within the same subject matter area, students may request a more advanced course be substituted for a required course.

## Requirements for the Minor in Biochemistry

- Minimum of 18 credit hours of course work, to include the following courses: BIOC 431, 432; BIOS 206 (or AGRO 315), 312, 313 (or 314); CHEM 252 (or 262) and 254 (or 264).

**Program Assessment.** In order to assist the department in evaluating the effectiveness of its programs, majors will be required in their senior year to participate in an exit interview. The interview will be conducted in the context of the BIOC 435 course.

Results of participation in this assessment activity will in no way affect a student's GPA or graduation.

**Laboratory Fee and Deposit.** Students who enroll in laboratory courses in the Center for Biological Chemistry may be required to pay a small non-refundable cash fee to defray the cost of materials consumed in the course and a deposit to cover the cost of replacing or repairing equipment the student may damage in the laboratory.

**Graduate Work.** Advanced degrees of master of science and doctor of philosophy are available. For details, consult the *Graduate Studies Bulletin*.

## Courses of Instruction (BIOC)

**101. Career Opportunities in Biochemistry** (1 cr I) Lec 1. Prereq: Interest in becoming a biochemistry major. Introduction to the field of biochemistry and faculty research interests in the Center for Biochemistry. Exploration of careers in biochemistry.

**321. Elements of Biochemistry** (3 cr) Lec 3. Prereq: CHEM 251; BIOS 101 and 101L, or 104H. *BIOC 321 will not count towards a biochemistry major.* Structure and function of proteins, carbohydrates, lipids and nucleic acids; enzymes; principal metabolic pathways; and biochemical expression of genetic information.

**321L. Laboratory for Elements of Biochemistry** (1 cr) Prereq: Parallel BIOC 321.

**431/831. Biomolecules and Metabolism** (CHEM, BIOS 431/831) (4 cr I, II) Lec 4. Prereq: CHEM 252 or 262. BIOS 102 recommended. *First course of a two-semester, comprehensive biochemistry course sequence.* Structure and function of proteins, nucleic acids, carbohydrates and lipids; nature of enzymes; major metabolic pathways; and biochemical energy production.

**432/832. Gene Expression and Replication** (CHEM, BIOS 432/832) (2 cr I, II) Lec 2. Prereq: BIOC 431/831. Continuation of BIOC 431/831. Structural and biochemical aspects of DNA replication and gene expression, and biotechnology.

**433/833. Biochemistry Laboratory** (BIOS, CHEM 433/833) (2 cr I, II) Lec 1, lab 4. Prereq: BIOC 431/831 or concurrent enrollment.

Introduction to techniques used in biochemical and biotechnology research, including measurement of pH, spectroscopy, analysis of enzymes, chromatography, fractionation of macromolecules, electrophoresis, and centrifugation.

**434/834. Plant Biochemistry** (AGRO, BIOS, CHEM 434/834) (3 cr, II) Lec 3. Prereq: BIOC/BIOS/CHEM 431/831. *Offered every other year beginning spring 2007.*

Biochemical metabolism unique to plants. Relationships of topics previously acquired in general biochemistry to biochemical processes unique to plants. Biochemical mechanisms behind physiological processes discussed in plant or crop physiology.

(ACE 10) [IS] 435. **Advanced Topics in Biochemistry**<sup>1</sup> (3 cr I, II) Lec 3. Prereq: BIOC/BIOS/CHEM 432. *BIOC 435 is open to BIOC majors only. Literature research.* Application of general biochemistry knowledge to current topics in the life sciences.

437/837. **Research Techniques in Biochemistry** (BIOS 437/837) (4 cr II) Lec 1, lab 9. Prereq: CHEM 116 or 221 and BIOC/BIOS/CHEM 433/833, or permission. *BIOC 437/837 is for advanced undergraduate and beginning graduate students who plan a career in laboratory work within the life sciences*

Practical applications of biochemical methodology to studies in the life sciences. Practical experience with quantitation by spectrophotometry and spectrofluometry, chromatographic and electrophoretic fractionation of proteins and nucleic acids, detection of biomolecules by immunological and DNA hybridization techniques, and analysis of data with a microcomputer.

[IS] 486/886. **Advanced Topics in Biophysical Chemistry** (CHEM, BIOS 486/886) (3 cr II) Lec 3. Prereq: CHEM 471/871 or 481/881.

Applications of thermodynamics to biochemical phenomena, optical properties of proteins and polynucleotides, and kinetics of rapid reactions.

498. **Undergraduate Research** (1-6 cr, max 6 I, II, III) Ind. Prereq: Permission. Research on a specific biochemical project.

499H. **Honors Thesis** (1-6 cr, max 6 I, II, III) Prereq: Good standing in the University Honors Program or by invitation; and permission. AGRI 299H recommended. Conduct a scholarly research project and write a University Honors Program or undergraduate thesis.

\*810. **Plant Molecular Biology** (AGRO, BIOS, HORT \*810) (3 cr II) Lec 3. Prereq: AGRO 315 or BIOS 206; BIOC 831 or permission.

\*818. **Agricultural Biochemistry** (AGRO 818) (2 cr) Prereq: Undergraduate degree with a major related to the life sciences and a course in biochemistry.

836. **Biophysical Chemistry** (CHEM 836) (3 cr II) Lec 3. Prereq: One semester of physical chemistry.

\*838. **Molecular Biology Laboratory** (BIOS, VBMS \*838) (5 cr III) Lec 6, lab 27. Prereq: BIOC 432/832, BIOS 312 and 313, an advanced course in genetics, and permission.

\*839. **Graduate Survey of Biochemistry** (CHEM, BIOS \*839) (3 cr I) Prereq: Graduate standing in biochemistry, chemistry, or biological sciences or permission.

\*848. **Redox Biochemistry** (CHEM \*848) (3 cr) Prereq: 3 hrs BIOC.

\*869. **Chemistry for Secondary School Classrooms** (CHEM, TEAC \*869; BIOS 883) (1 cr, max 12) *This course cannot be taken for graduate credit in chemistry or biochemistry.*

898. **Research in Biochemistry** (BIOS 898) (1-3 cr I, II, III) Prereq: BIOC 433/833 and permission.

899. **Masters Thesis** (BIOS 899) (6-10 cr I, II, III)

Refer to the Graduate Bulletin for 900-level courses.

## Biological Sciences

**Director:** Alan C. Kamil, 348 Manter Hall

**Vice Director:** John C. Osterman, 348 Manter Hall

**Professors:** Alfano, Basolo, Blum, Fritz, Gardner, Gibson, Harshman, Janovy, Kamil, Louda, Mackenzie, Morris, Nickerson, Pardy, Partridge, Powers, Steadman, Van Etten, Vidaver, Wood, Yuen, Zera

**Associate Professors:** Atkin, Avramova, Bachman, Cerutti, Chia, Christensen, Elthon, French, Giesler, Harris, Knops, Mitra, E. Moriyama, H. Moriyama, Ortí, Osterman, Pilson, Wagner, Zhang

**Assistant Professors:** Angeletti, Brassil, Brisson, Funnell, Grass, Heberts, Jackson, Russo, Storz, Tenhumberg, Voromin, Yu, Weber, Wegulo  
**Professor of Practice:** Woodman  
**Assistant Professor of Practice:** Glider

The School of Biological Sciences offers educational opportunities in various areas of biology leading toward either the bachelor of arts or the bachelor of science degree. Study in the biological sciences prepares students for a variety of careers requiring knowledge of biological processes, such as teaching; environmental resource management and assessment; production and sales of biological materials; research in governmental, industrial, and academic laboratories; as well as preparation for careers in medicine, dentistry, and health-related professions.

**Graduate Work.** The advanced degrees of master of science, and doctor of philosophy are offered. For details, see the *Graduate Studies Bulletin*.

## Requirements for the Major in Biological Sciences

- 18 hours in the five core courses:

BIOS 102. Cell Structure & Function  
 BIOS 103. Organismic Biology  
 BIOS 205. Genetics, Molecular & Cellular Biology Lab  
 BIOS 206. General Genetics  
 BIOS 207. Ecology & Evolution

An additional 18 hours of elective courses in biological sciences, at least 10 of which must be at the 300 level or above, with at least 3 hours at the 400 level. Students concerned about their preparation for college-level biology should consult their adviser.

No more than 8 hours may be from courses whose home department is other than biological sciences (see cross-listed courses).

**Pass/No Pass.** No biological science course, except BIOS 310, used to fulfill the 36 hours for the major (and 18 hours for the minor) may be taken Pass/No Pass.

The following courses will NOT count toward the biological sciences major: BIOS 140, 150, 160, 203, 220, 222, 232 or 280. BIOS 395 Internship is offered Pass/No Pass only and therefore may not be used in the major.

No minor is required, but biological sciences majors must complete the following ancillary courses in addition to the 36 hours in the major:  
 BIOC 321 or BIOC 431  
 CHEM 109 & 110 or CHEM 113 & 114 & 116  
 CHEM 251 & 253 or CHEM 261 & 263  
 MATH 106 and one of the following: MATH 107, or an approved statistics course (choose from STAT 218, EDPS 459, PSYC 350, ECON 215, STAT 380) or CSCE 155  
 PHYS 141 & 142 or PHYS 211 & 212

Additionally, biological sciences majors are strongly urged to attend the Cedar Point Biological Station for at least one summer session. Majors are also encouraged to do a research project with a faculty member.

**Program Assessment.** To assist the department in evaluating the effectiveness of its program, after significantly completing the course work, all majors will be **required** in their senior year to register for BIOS 99 and complete selected assessment activities.

Results of participation in these assessment activities will in no way affect a student's GPA or graduation.

## Requirements for the Minor in Biological Sciences

- 18 hours, comprising the five-course core: BIOS 102, 103, 205, 206, and 207

## Courses of Instruction (BIOS)

99. **Assessment of the Major** (0 cr) Prereq: Senior standing. *Required for graduation. Pass/No Pass only.* Completion of a standardized cumulative examination, an exit interview and other assessment activities.

(ACE 4) [ES] 101. **General Biology** (3 cr) Lec 3. Prereq: High school chemistry or equivalent strongly recommended. Parallel BIOS 101L.

Analysis of the structure, functions, and interactions of organisms at the molecular, cellular, and individual levels of organization.

[ES] 101L. **General Biology Laboratory** (1 cr) Lab 3. Prereq: Parallel registration in BIOS 101.

Laboratory exercises and experiments that complement material covered in BIOS 101.

(ACE 4) [ES][IS] 102. **Cell Structure and Function** (4 cr) Lec 3, rec 1. Prereq: High school chemistry, or CHEM 109 or parallel. *CHEM 109 recommended.*

General introduction to the chemistry of life, cellular organelles, metabolism and reproduction, the structure and expression of DNA and an introduction to patterns of inheritance

(ACE 4) [ES][IS] 102H. **Honors: Cell Structure and Function** (4 cr) Lec 3, rec 1. Prereq: Good standing in the University Honors Program or permission; high school chemistry, or CHEM 109 or parallel. *CHEM 109 recommended.*

General introduction to the chemistry of life, cellular organelles, metabolism and reproduction, the structure and expression of DNA and an introduction to patterns of inheritance

(ACE 4) [ES][IS] 103. **Organismic Biology** (4 cr) Lec 3, lab 3. *BIOS 103 is intended for those with a personal or professional interest in the life sciences (broadly defined).*

Survey of living organisms, their morphology, life histories, taxonomy, phylogeny, ecology and biogeography. The nature of biological diversity, how that diversity is studied, and the economic importance of various groups of organisms.

[ES] 104H. **Honors: Introductory Biology** (4 cr) Lec 3, lab 3. Prereq: Admission to the University Honors Program. High school chemistry recommended.

In-depth survey of biological principles as applied to cells, individuals, and communities.

[ES][IS] 109. **General Botany** (4 cr) Lec 3, lab 3. Prereq: BIOS 101 and 101L or equivalent. *Field work is required.*

Introduction to the plant kingdom and to plants as biological organisms; structure and function of cells, tissues, and organs with emphasis on seed plants; the important processes and concepts of classification, inheritance, evolution, and ecology.

[ES] 111. **The Biology of Microorganisms** (4 cr II) Lec 3, lab 3. Prereq: BIOS 101 and 101L, or equivalent. *Open to freshmen and sophomores; juniors and seniors by permission only.*

Comparative study of microorganisms, principles and applications.

[ES] 112. **Introduction to Zoology** (3 cr) Lec 3. Prereq: BIOS 101 and 101L, or equivalent. Parallel registration in BIOS 112L required. Survey of the animal kingdom with emphasis on the evolution, ecology, and behavior of major animal groups.

**[ES] 112L. Introduction to Zoology Lab** (1 cr) Lab 3. Prereq: BIOS 101 and 101L, or equivalent. Parallel registration in BIOS 112 required. Laboratory exercises and experiments that complement material covered in BIOS 112.

**[ES][IS] 140. Natural History of Western Nebraska** (4 cr III) Lec, lab. Offered summers only at Cedar Point Biological Station. Intended primarily for non-science majors and anyone interested in learning more about the natural world. Field trips to sites in western Nebraska.

Introduction to the animals and/or plants of western Nebraska. Animals and/or plants in their natural environments.

**150. Introduction to Dentistry and Dental Hygiene** (1 cr) Lec 1. BIOS 150 will not count toward a major in biological sciences. Interest in dentistry, dental hygiene, or other health professions as a career. Terminology, ethics, anatomy, dental specialties and clinical experience.

**160. Introduction to Clinical Laboratory Science** (1 cr) Lec 1. For students interested in a career in a clinical laboratory science/medical technology. BIOS 160 will not count toward a major in biological sciences.

Introduces the pre-clinical laboratory scientist/medical technologist to the profession of clinical laboratory science. Includes lessons in ethics, organization of the medical team, professionalism, automation, medical terminology, hematology, blood bank, clinical chemistry, and medical microbiology.

**[ES] 189H. University Honors Seminar** (3 cr) Lec 3. Prereq: Good standing in the University Honors Program or by invitation. University Honors Seminar 189H is required of all students in the University Honors Program. Topic varies.

**[ES][IS] 203. Bioethics** (3 cr) Lec 3. Prereq: Sophomore standing; BIOS 101 and 101L. BIOS 203 will not count toward a major in biological sciences.

Relevance of biological science to society and its environment examined through readings, guest lecturers, and discussion.

**[ES] 205. Genetics, Molecular and Cellular Biology Laboratory** (2 cr) Lec 1, lab 3. Prereq: BIOS 102; BIOS 206 or parallel.

Series of lab exercises to introduce principles of genetic, molecular and cellular biology. Experiments done using model systems to identify, map and clone genes; analyze gene products and expression; and fractionate cell components.

**[ES] 206. General Genetics** (4 cr) Lec 3, rct 1. Prereq: BIOS 101 and 101L, or 102.

Inheritance and regulation of genes in animals, plants and bacteria and model genetic organisms. Genes examined from a classical, molecular and population viewpoint.

**[ES][IS] 207. Ecology and Evolution** (4 cr) Lec 3, lab 3. Prereq: BIOS 206, BIOS 103 recommended.

Introduction to the principles and processes of ecology and evolution. Structure and dynamics of populations and communities; biotic and abiotic interactions; mechanisms of evolutionary change; natural selection; adaptation; and speciation.

**[ES] 213. Human Physiology** (3 cr) Lec 3. Prereq: BIOS 101 and 101L, or BIOS 102 or equivalent; parallel BIOS 213L.

Elementary survey of the basic functional systems of the human body: the muscular, nervous, receptor, circulatory, respiratory, digestive, excretory, endocrine, and reproductive systems.

**[ES] 213L. Human Physiology** (1 cr I, II, III) Lab 3. Prereq: BIOS 101 and 101L, or BIOS 102 or equivalent; parallel BIOS 213.

Laboratory exercises and experiments that complement material covered in BIOS 213.

**[ES] 214. Human Anatomy** (5 cr) Lec 2, lab 6. Prereq: Sophomore standing. Cadaver dissections are studied in the lab.

Introduction to the major organ systems of the human body including skeletal, major muscle, nervous, digestive, circulatory, excretory, and reproductive systems. Anatomical structures as they pertain to clinical anatomy.

**216. Plant Breeding Principles and Practice** (AGRO, HORT 216) (2 cr) Lec 2. Prereq: High school biology and chemistry. BIOS 101 and 101L, or 102 or equivalent recommended. For course description, see AGRO 216.

**[ES][IS] 232. Ecological Issues in the Great Plains** (3 cr) Lec 3. BIOS 232 is not open to students who have completed BIOS 220. BIOS 232 will not count toward a major in biological sciences. Basic concepts in ecology, including comparison of major world

ecosystems, especially the Great Plains. Interplay of ecological principles and human activities.

**280. The Pre-Health Experience for Biological Sciences Majors** (1 cr) Lec, lab, fld. Prereq: Sophomore standing; BIOS major; BIOS 213 or 214. Pass/No Pass only. Keep a personal journal and make a class presentation. BIOS 280 will not count toward a major in BIOS.

Exposure for pre-medical and other pre-health science students to career in health sciences. Shadow a professional and research medically-based careers.

**295. Topics in Biology** (1-3 cr) Prereq: Permission. Students need not be majors in biological sciences nor necessarily have had extensive biological training. Topic varies.

**296. Independent Study in Biology** (1-3 cr, max 3) Lab 1-6. Prereq: 4 hrs BIOS and permission. A maximum of 3 credit hours may be counted toward the major in BIOS. Before registering, arrangements must be made with a faculty member in BIOS to reach an agreement on the scope and determine the amount of credit for the project.

Opportunity to participate in work in a research laboratory in order to gain some insight into the philosophy and methods of original research.

**302. Advanced Cell Structure and Function** (3 cr) Lec 3. Prereq: 12 hrs BIOS including BIOS 102 and 206; one semester organic chemistry. BIOS 205 or equivalent, and two semesters organic chemistry recommended. Continuation of BIOS 102.

The design, execution, and evaluation of scientific experiments that significantly advance our knowledge of cell and molecular biology.

**306. Survey in Cell and Molecular Biology Research Techniques** (4 cr) Prereq: 12 hrs of biological sciences and permission. Intensive practical research experience for students interested in developing laboratory skills. Team-taught by faculty who conduct research in cell and molecular biology and is designed to expose students to the methods that scientists use to investigate and solve research questions.

**310. School of Biological Sciences Seminar** (1 cr per sem, max 3) Prereq: 12 hrs biological sciences with an average of B or above, and permission. Pass/No Pass only.

Reviews of current literature of general interest; reports of research activities by staff and guest speakers.

**312. Fundamentals of Microbiology** (3 cr) Lec 3. Prereq: One year biological sciences, one year general chemistry, and one semester organic chemistry or one semester biochemistry. One semester organic chemistry and one semester biochemistry recommended. Parallel registration in BIOS 313 or 314 recommended. Credit towards the degree can be earned in only one: BIOS 312 or AGRO 360.

Structure of microbial cells, their nutrition and growth, genetics, metabolic and biosynthetic activity, and host-parasite relationships.

**313. Molecular Microbiology Laboratory** (2 cr) Lab 6. Prereq: One year each of biological sciences and general chemistry; one semester organic chemistry or biochemistry; BIOS 312 or parallel. One semester of organic chemistry and one semester biochemistry recommended; BIOS 312 parallel recommended. Credit towards the degree may not be earned in both BIOS 313 and 314. Microbiology techniques which include recombinant DNA methods used in industry, medicine and research.

**314. Microbiology Laboratory** (1 cr) Lab 3. Prereq: One year each biological sciences and general chemistry; one semester organic chemistry or biochemistry; and BIOS 312 or parallel. One semester of organic chemistry and one semester biochemistry recommended. BIOS 312 parallel recommended. Credit towards the degree may not be earned in both BIOS 313 and 314. Traditional microbiology techniques without recombinant DNA methods.

**315. Vertebrate Embryology** (4 cr) Lec 3, lab 3. Prereq: 12 hrs BIOS; comparative anatomy recommended. Gametogenesis, fertilization, cleavage, early development of a number of vertebrates, and the development of specific organ systems. Includes a three-hour lab in which the morphological aspects of development are illustrated on slides and in which some modern techniques used in experimental mammalian development are introduced.

**316. Case Studies in Theoretical Ecology** (MATH, NRES 316) (3 cr) Lec 3. Prereq: Permission. Case studies are structured around preparation for subsequent independent research (BIOS 498 or MATH 496).

Introduction to biological literature, applied mathematics, computer programming, and/or statistical techniques relevant to particular questions in ecology, evolution, and behavior. Typical mathematical topics include discrete dynamics, systems of differential equations, matrix algebra, or statistical inference and probability.

**326. Biology of Viruses** (3 cr) Lec 3. Prereq: BIOS 102; one year general chemistry and one semester organic chemistry. Recommended parallel: BIOS 206 or BIOC 313.

Fundamental concepts in virology including basic features of structure, evolution, diseases, replication cycles and virus-host interactions.

**[IS] 374. Economic Botany** (4 cr) Lec 3, lab 3. Prereq: 12 hrs BIOS, including BIOS 103 or 109.

Major groups of economically important plants including food crops, wood, medicinal plants and ornamentals. Evolution, cultivation, processing and uses of the plant.

**[IS] 381. Invertebrate Zoology** (4 cr) Lec 3, lab 3. Prereq: BIOS 103 or 112.

Comparative study of the morphology and natural history of invertebrate animals; emphasis on phylogenetic relationships.

**[IS] 385. Parasitology** (4 cr) Lec 3, lab 3. Prereq: 8 hrs biological sciences.

Emphasis on parasitic diseases of humans. Impact of parasitism on societies considered in addition to the clinical consequences for infected individuals. Means of transmission, diagnosis, and treatment considered in respect to recent technological advances in production of monoclonal antibodies and genetic engineering. Nature and biological significance of parasitism are viewed in terms of prospects for control.

**386. Vertebrate Zoology** (NRES 386) (4 cr) Lec 3, lab 3. Prereq: BIOS 101, 101L, and 112; or BIOS 103. BIOS/NRES 386 requires field trips and includes trips outside of normal class time.

Evolutionary origin and relationships, natural history, and ecological adaptations of vertebrates. Comparative form and function, particularly of bone and muscle systems among and the diversity within vertebrate groups

**388. Comparative Anatomy of the Vertebrates** (4 cr) Lec 3, lab 4. Prereq: BIOS 103 or 112. BIOS 388 has required assigned readings.

Evolutionary development and comparative structure of the chordate organ systems, including dissections of the dogfish, salamander, and cat.

**389. Anatomy and/or Physiology Internship** (1 cr) Open only to students who expect to become teaching assistants in anatomy or physiology.

A combination of academic work and instruction in the anatomy or physiology laboratories in biological sciences: cadaver dissection or work with physiological equipment; assist in the instruction of anatomical and physiological concepts.

**395. Internship** (1-3 cr, max 3) Specifics of requirements to be arranged with supervising faculty member. Pass/No Pass only. BIOS 395 will not count toward a major in BIOS.

Combination of work outside the University and academic work in biological sciences arranged through the Career Services Office.

**398H. Honors Seminar** (1 cr per sem) Prereq: Enrollment in the biological sciences honors program. Special topics in biology.

**399H. Honors Research** (1-4 cr) Prereq: Open to candidates for degrees with distinction or enrollment in the biological sciences honors program.

Independent research leading to an honors thesis and exam in accordance with the College's degrees with distinction procedure.

**407/807. Biology of Cells and Organelles** (4 cr) Prereq: BIOS 102 and 206.

Regulation and timing of macromolecular synthesis during the cell cycle; the genetic autonomy of mitochondria and chloroplasts.

**[IS] 412/812. Human Genetics** (3 cr) Lec 2, rct 1. Prereq: BIOS 101 and 101L, or 102; BIOS 206. Three semesters high school algebra or equivalent recommended.

Genetic basis of human variation, with emphasis on methods of applying genetic principles to humankind. Genetic ratios in pooled data; population and quantitative genetics; consanguinity; polygenic inheritance; blood types; sex linkage; linkage and crossing over; sex determination; visible chromosome variation; mutation; heredity and environment; eugenics; anthropological genetics; molecular genetics and molecular basis of disease; human genome project.

[IS] 412H. **Honors: Human Genetics** (3 cr) Lec 2, rct 1. Prereq: Good standing in the University Honors Program or by invitation; BIOS 101 and 101L; BIOS 206. Three semesters high school algebra or equivalent recommended.

Genetic basis of human variation, with emphasis on methods of applying genetic principles to humankind. Genetic ratios in pooled data; population and quantitative genetics; consanguinity; polygenic inheritance; blood types; sex linkage; linkage and crossing over; sex determination; visible chromosome variation; mutation; heredity and environment; eugenics; anthropological genetics; molecular genetics and molecular basis of disease; human genome project.

415/815. **Developmental Biology** (3 cr) Lec 3. Prereq: 12 hrs BIOS. Survey of topics in developmental biology, both animal and plant development.

418/818. **Advanced Genetics** (3 cr I) Lec 3. Prereq: 12 hrs BIOS including BIOS 206 or equivalent.

In-depth study of the principles and methodology of genetics, with emphasis on *Drosophila*: multiple alleles and complex loci, linkage and recombination, chromosome rearrangements, fine structure analysis, sex determination, recombinant DNA, and gene function in development.

420/820. **Molecular Genetics** (VBMS \*820) (3 cr II) Lec 3. Prereq: 12 hrs BIOS including BIOS 206 or equivalent.

Molecular basis of genetics. Gene structure and regulation, transposable elements, chromosome structure, DNA replication, and repair mechanisms and recombination.

422/822. **Comparative Physiology** (3 cr) Lec 3. Prereq: BIOS 213, BIOS 423/823 recommended.

Comprehensive survey of comparative physiology with emphasis on the diversity of adaptations in basic physiological systems and the effects of environmental parameters upon such systems. Comparative physiology of osmoregulation, temperature regulation, metabolism, muscle, central nervous function, and sensory function.

423/823. **Advanced Animal Physiology** (3 cr) Lec 3. Prereq: BIOS 213 or equivalent and one semester organic chemistry. Examination of the more detailed mechanisms operating in selected physiology systems of man and other animals with emphasis on the neural, cardiovascular, renal, and endocrine systems.

425/825. **Plant Biotechnology** (3 cr) Lec 3. Prereq: BIOS 109 and 206.

Introduction to the use of plants for basic and applied purposes by deliberate manipulation of their genomes; techniques in plant genetic engineering; manipulations of plant development and metabolism; engineering pest, disease, and stress resistance; plants as bioreactors; and environmental and social impacts of plant biotechnology.

427/827. **Practical Bioinformatics Laboratory** (3 cr) Prereq: BIOS 206, or equivalent. *No computer programming skill is required.* Basic knowledge and skills needed for general bioinformatics, genomics and proteomics analyses. Various computational analyses including database search, sequence alignment, phylogenetic reconstruction, gene prediction/mining, microarray data analyses and protein structure analyses.

428/828. **Perl® Programming for Biological Applications** (3 cr) Lec 3. Prereq: 12 hrs BIOS.

Computer programming, using *Perl®*, as applied to biological sciences, bioinformatics, computational biology, and genomics.

429/829. **Phylogenetic Biology** (4 cr) Lec 3, rct 1. Prereq: BIOS 102 or 206; BIOS 103; BIOS 207 or parallel; or equivalent.

Principles of phylogenetic inference and emphasis on the application of phylogenetic hypotheses in biology and the biomedical sciences. How inferences derived from phylogenetic trees can be applied in different areas of biological investigation including systematics, biogeography, conservation biology, molecular evolution, genome structure, epidemiology, population biology, ecology, character evolution, behavior, and macroevolution.

440/840. **Microbial Physiology** (VBMS 840) (3 cr) Lec 3. Prereq: BIOS 312 and either 313 or 314, or permission.

Molecular approaches to the study of prokaryotic cell structure and physiology, including growth, cell division, metabolism, and alternative microbial life styles.

443/843. **Immunology** (VBMS 843) (3 cr I) Lec 3. Prereq: BIOS 206 and one semester organic chemistry. BIOS 102 recommended.

Fundamental consideration of cellular and humoral mechanisms of immunity, the structure and function of immunoglobulins, antigen-antibody interactions; hypersensitivity; transplantation and tumor immunity; immune and autoimmune disorders.

451/851. **Advanced Molecular Biology Laboratory** (2 cr) Lab 6. Prereq: BIOS 205 and 206.

A research project designed to give practical experience with a variety of molecular biology techniques.

453/853. **Advanced Cell Biology Laboratory** (2 cr) Lab 6. Prereq: BIOS 205; BIOS 302 or parallel.

Series of labs designed to acquaint students with modern techniques used in cell biology labs including plant and animal tissue culture, two-dimensional protein gels, immunoblotting, protein purification techniques, and the use of computers to analyze data.

454/854. **Ecological Interactions** (NRES 454/854) (4 cr) Lec 3, lab 4. Prereq: BIOS 220 or equivalent. *May also be offered at Cedar Point Biological Station.*

Nature and characteristics of populations and communities. Interactions within and between populations in community structure and dynamics. Direct and indirect interactions and ecological processes, competition, predation, parasitism, herbivory, and pollination. Structure, functioning and persistence of natural communities, foodweb dynamics, succession, and biodiversity.

455/855. **Great Plains Flora** (4 cr) Lab and field 9. Prereq: 12 hrs biological sciences or permission. *May also be offered at Cedar Point Biological Station.*

Plant identification. Field study of the flora in various habitats. Field trips include grassland and woodland vegetation of this region.

456/856. **Mathematical Models in Biology** (NRES 456/856) (3 cr) Lec 3. Prereq: Junior standing; major in BIOS; MATH 106 or 107.

Biological systems, from molecules to ecosystems, are analyzed using mathematical techniques. Strengths and weaknesses of mathematical approaches to biological questions. Brief review of college level math; introduction to modeling; oscillating systems in biology; randomness in biology; review of historically important and currently popular models in biology.

457/857. **Ecosystem Ecology** (GEOL 457/857) (4 cr) Lec 3, rct 1. Prereq: BIOS 207 or 220; CHEM 110; and MATH 107.

Processes controlling the cycling of energy and elements in ecosystems and how both plant and animal species influence them. Human-influenced global and local changes that alter these cycles and ecosystem functioning.

[IS] 462/862. **Animal Behavior** (3 cr I) Lec 3. Prereq: 12 hrs BIOS. Introduction to animal behavior stressing the ethological approach. Anatomical and physiological bases of behavior, ontogenetic and phylogenetic observations, and the relations of animal behavior studies to genetics, ecology, taxonomy, and evolution. Assigned reading.

463/863. **Experimental Methods in Animal Behavior** (3 cr)

Prereq: 12 hrs biological sciences including BIOS 462/862. Animal behavior stressing an experimental approach. Proximate and ultimate bases of behavior and the relations of behavior to genetics, ecology and evolution investigated using classical methods and state-of-the-art techniques.

[IS] 468/868. **Field Animal Behavior** (4 cr) Prereq: 12 hrs biological sciences or permission. *Offered in the summer at Cedar Point Biological Station. Requires extensive field work and independent research project.*

Behavior of animals. Stresses methods for testing evolutionary hypotheses under field conditions with emphasis on foraging behavior, animal communication, and animal social systems.

470/870. **Prairie Ecology** (4 cr) Prereq: BIOS 207 or equivalent. *Extensive field work is required.*

Structure, function, and distribution of communities. Interaction of different species with their biotic and abiotic environments.

471/871. **Plant Taxonomy** (4 cr) Prereq: 12 hrs biological sciences.

Principles of plant classification, with emphasis on taxonomic procedures, nomenclatural rules, and plant identification. Lab work on taxonomic analysis and plant identification.

[IS] 472. **Evolution** (4 cr) Lec 3, rct 1. Prereq: BIOS 206 and 207.

The principles and processes of micro- and macroevolution. Mechanisms behind evolutionary change and examples of these processes in a wide variety of organisms.

473/873. **Freshwater Algae** (4 cr) Lec 3, lab 4. Prereq: 12 hrs biological sciences. *May also be offered at Cedar Point Biological Station.*

Classification, identification, and life histories of algae from freshwater, soil, and air.

[IS] 475/875. **Ornithology** (3 cr I) Lec 3. Prereq: 12 hrs BIOS. *Optional lab (BIOS 475L/875L) by arrangement. May also be offered at Cedar Point Biological Station.*

Review of avian biology. Functional morphology, evolutionary relationships and breeding biology.

475L/875L. **Ornithology Lab** (1 cr) Lab 3. Prereq: Parallel BIOS 475/875 and permission.

477/877. **Bioinformatics and Molecular Evolution** (3 cr) Prereq: BIOS 101 and 101L, or 102; BIOS 206 or parallel or CHEM 251 or equivalent. Basic statistics recommended.

Pairwise and multiple alignments, sequence similarity and domain search, distance estimation, phylogenetic methods, gene mining, protein classification and structure. Algorithms used in bioinformatics as well as fundamental concepts of molecular evolution that underlie various bioinformatics methods.

478/878. **Plant Anatomy** (4 cr) Lec 3, lab 3. Prereq: 8 hrs biological sciences, BIOS 109 recommended.

Development, structure, and function of tissues and organs of the higher plants. Relationships of structure to physiology and ecology of plants.

481/881. **Helminthology** (4 cr) Lec 2, lab 6. Prereq: 12 hrs biological sciences including BIOS 385 and permission. *May also be offered at Cedar Point Biological Station.*

Classification, morphology, biology of helminth parasites, chiefly of animals other than man. Includes collection, preparation of specimens, and technique.

[IS] 487/887. **Field Parasitology** (4 cr) Prereq: 12 hrs biological sciences. *Offered summers only at Cedar Point Biological Station.* Animal host-parasite relationships, epizootiology, ecology, host distribution, classification, and life cycle stages of animal parasites.

[IS] 488/888. **Natural History of the Invertebrates** (4 cr) Prereq: 12 hrs biological sciences. *Offered summers only at Cedar Point Biological Station.*

Field course in invertebrate community relations stressing on-site observation of community components, natural history, and interactions.

489/889. **Ichthyology** (NRES 489/889) (4 cr I) Lec 3, lab 4. Prereq: 12 hrs biological sciences. *May also be offered at Cedar Point Biological Station.*

Fishes, their taxonomy, physiology, behavior, and ecology. Dynamics of fish stocks and factors regulating their production.

497/897. **Special Topics in Biological Sciences** (1-4 cr, max 24) Prereq: 12 hrs biological sciences and permission. Topics vary by term.

498/898. **Independent Research in Biological Sciences** (1-8 cr, max 8) Ind. Prereq: 12 hrs BIOS and permission. *Four credit hours may be counted toward the undergraduate BIOS major. Before registering, arrangements must be made with a faculty member in BIOS to reach an agreement on the scope and to determine the amount of credit for the project.*

Independent study and laboratory or field investigation of a specific problem.

803. Principles of Evolution (2 cr)

804. Principles of Behavioral Ecology (2 cr)

805. Principles of Ecology (2 cr)

809. Professionalism (1 cr) *Pass/No Pass only.*

824. Fundamentals of Ecological and Evolutionary Physiology (1 cr) Lec 1. Prereq: Permission.

899. Masters Thesis (6-10 cr)

Refer to the Graduate Bulletin for 900-level courses.

## Cross Listed Courses (taught by other departments)

(ACE 4) [ES] 115. Insect Biology (ENTO 115) (3 cr I, II) Lec 2. ENTO/BIOS 116 may be taken as an optional 1 cr hour lab.

For course description, see ENTO 115.

[ES] 116. Insect Identification (ENTO 116) (1 cr I, II)

For course description, see ENTO 116.

[ES] 220. Principles of Ecology (NRES 220) (3 cr) Lec 3. Prereq: 4 hrs BIOS; MATH 101 or 103. NRES/BIOS 220 is not open to students who have completed BIOS 207. NRES/BIOS 220 will not count toward a major in biological sciences.

For course description, see NRES 220.

[ES] 222. Ecology Laboratory (NRES 222) (1 cr) Lab 4. Prereq: NRES/BIOS 220 or parallel. May also be offered at Cedar Point Biological Station. Field trips to local ecosystems are required.

For course description, see NRES 222.

300. Toxins in the Environment (ENTO, NRES 300) (2 cr II) Lec 2. Prereq: One semester BIOS and one semester CHEM. Offered spring semester of even-numbered calendar years.

For course description, see ENTO 300.

[ES][IS] 369. Introductory Plant Pathology (PLPT 369) (3 cr) Lec/dem 3. Prereq: BIOS 101 and 101L, or 109.

For course description, see PLPT 369.

(ACE 4) [ES] 373. Biopsychology (PSYC 373) (3 cr) Prereq: PSYC 181 and BIOS 101/101L or their equivalents.

For course description, see PSYC 373.

394. Seminar in Behavioral Biology (PSYC 394) (1 cr, max 24) Prereq: PSYC/BIOS 373. May be repeated for credit under different topics.

For course description, see PSYC 394.

406/806. Insect Ecology (ENTO 406/806) (3 cr) Lec 3. Prereq: BIOS 220 and 222.

For course description, see ENTO 406/806.

408/808. Functional Histology (VBMS 408/808) (4 cr I) Lec 3, lab 2. Prereq: BIOS 101 and 101L, or 102 or 112; BIOS 213 or ASCI 240. BIOS 315 recommended.

For course description, see VBMS 408/808.

419/819. Behavioral Neuroscience (PSYC 465/865) (2-3 cr) Prereq: 12 hrs psychology or 12 hrs biological sciences, including PSYC/BIOS 373.

For course description, see PSYC 465/865.

431/831. Biomolecules and Metabolism (BIOC, CHEM 431/831) (4 cr I, II) Lec 4. Prereq: CHEM 252 or 262. BIOS 102 recommended. First course of a two-semester, comprehensive biochemistry course sequence.

432/832. Gene Expression and Replication (BIOC, CHEM 432/832) (2 cr I, II) Lec 2. Prereq: BIOC 431/831.

For course description, see BIOC 432/832.

433/833. Biochemistry Laboratory (BIOC 433/833) (2 cr I, II) Lab 7. Prereq: BIOC 431/831 or concurrent enrollment.

For course description, see BIOC 433/833.

434/834. Plant Biochemistry (AGRO, BIOC, CHEM 434/834) (3 cr II) Lec 3. Prereq: BIOC/BIOS/CHEM 431/831. Offered every other year beginning spring 2007.

For course description, see BIOC 434/834.

436/836. Quaternary Paleoclimatology and Paleoecology (GEOL 423/823) (3 cr) Lec 3. Prereq: 12 hrs GEOL or BIOS. For course description, see GEOL 423/823.

437/837. Research Techniques in Biochemistry (BIOC 437/837) (4 cr II) Lec 1, lab 9. Prereq: CHEM 116 or 221 and BIOC/BIOS/ CHEM 433/833 or permission.

For course description, see BIOC 437/837.

438/838. Biogeochemical Cycles (GEOL 424/824) (3 cr) Lec 3. Prereq: CHEM 109 or 113; 12 hrs geology or biological sciences. For course description, see GEOL 424/824.

441/841. Pathogenic Microbiology (VBMS 441/841) (3 cr II) Lec 3. Prereq: BIOS 312 and either 313 or 314, or permission. For course description, see VBMS 441/841.

[ES] 442/842. Endocrinology (ASCI 442/842, VBMS 842) (3 cr) Lec 3. Prereq: A course in vertebrate physiology and/or biochemistry.

For course description, see ASCI 442/842.

445/845. Food Microbiology (FDST 405/805) (3 cr) Lec 3. Prereq: BIOS 312; CHEM 251; BIOC 321; or permission.

For course description, see FDST 405/805.

446/846. Food Microbiology Laboratory (FDST 406/806) (2 cr) Lab 6. Prereq: Parallel registration in BIOS 445/845, BIOS 314 and permission.

For course description, see FDST 406/806.

447/847. Soil Microbiology (AGRO, NRES 460/860, SOIL 460) (3 cr II) Lec 3. Prereq: One semester microbiology; one semester biochemistry or organic chemistry.

For course description, see AGRO 460/860.

448/848. Human Growth and Development (ANTH 448/848) (3 cr) Lec 3. Prereq: ANTH 242 and 242L, or BIOS 101 and 101L.

For course description, see ANTH 448/848.

450/850. Biology of Wildlife Populations (NRES 450/850) (4 cr) Prereq: BIOS 220 or permission.

For course description, see NRES 450/850.

458. Wetlands (NRES 468/868, WATS 468) (4 cr II) Lec 4. Prereq: 12 hrs biological sciences; BIOS 220; CHEM 109 and 110. Offered even-numbered calendar years.

For course description, see NRES 468/868.

[IS] 459/859. Limnology (NRES 459/859, WATS 459) (4 cr II) Lec 3, lab 4. Prereq: 12 hrs BIOS, including BIOS/NRES 220/ BIOS 220x; two semesters CHEM. May also be offered at Cedar Point Biological Station.

For course description, see NRES 459/859.

461L/861L. Marine Ecology and Paleocology Lab (GEOL 439L/839L) (1 cr) Lab 3. Prereq: Parallel BIOS 461/861. Lab includes several field trips.

For course description, see GEOL 439L/839L.

461/861. Marine Ecology and Paleocology (GEOL 439/839) (2 cr) Lec 2. Prereq: BIOS/NRES 220. GEOL majors should register for GEOL 439L/BIOS 461L.

For course description, see GEOL 439/839.

464/864. Fisheries Biology (NRES 464/864) (3 cr) Prereq: BIOS 489/889 or equivalent.

For course description, see NRES 464/864.

474. Herpetology (NRES 474/874) (4 cr) Lec 4. Prereq: BIOS/ NRES 386 and permission. BIOS 388 recommended. May also be offered at Cedar Point Biological Station.

For course description, see NRES 474/874.

476/876. Mammalogy (NRES 476/876) (4 cr) Lec 3, lab 3. Prereq: 8 hrs BIOS; BIOS/NRES 386 or NRES 311. May also be offered at Cedar Point Biological Station. Field trips are required and may occur outside of scheduled class time. Lab and field time emphasize diversity of mammalian families and species identification of Nebraska mammals.

For course description, see NRES 476/876.

482/882. Field Entomology (ENTO 411/811) (4 cr) Prereq: 12 hrs biological sciences.

For course description, see ENTO 411/811.

484/884. Physiology of Exercise (NUTR 484/884) (3 cr) Prereq: 12 hrs BIOS including BIOS 213 or equivalent, and BIOS 214. For course description, see NUTR 484/884.

485/885. Aquatic Insects (ENTO, NRES 402/802) (2 cr II) Lec 2. Prereq: 12 hrs biological sciences or permission. For course description, see ENTO 402/802.

485L/885L. Identification of Aquatic Insects (ENTO, NRES 402L/802L) (1 cr II) Lab 1. Prereq: Parallel ENTO/NRES 402/802/BIOS 485/885. For course description, see ENTO 402L/802L.

[IS] 486/886. Advanced Topics in Biophysical Chemistry (BIOC, CHEM 486/886) (3 cr) For course description, see BIOC 486/886.

810. Plant Molecular Biology (AGRO, BIOC, HORT \*810) (3 cr II) Lec 3. Prereq: AGRO 315 or BIOS 206; BIOC 831 or permission.

\*811. Plant Tissue Culture (NRES, HORT 811) (4 cr II) Lec 2, lab 4. Prereq: BIOS 109; AGRO 325 which includes CHEM 109 and 110 and BIOC 211; or equivalent.

813. Animal Physiology I (ASCI, VBMS \*845) (4 cr I) Lec 3, lab 3. Prereq: CHEM 251; BIOS 112 or ASCI 240.

814. Animal Physiology II (ASCI, VBMS \*846) (4 cr II) Lec 3, lab 3. Prereq: ASCI \*845 or permission.

816. Computer-aided Sequence Analysis Primer (VBMS \*818) (2 cr I) Prereq: BIOC 831 or BIOS 801 or 820.

817. Plant-Water Relations (AGRO 407/807) (3 cr) Lec 3. Prereq: AGRO 325 or equivalent, MATH 106 recommended or permission.

835. Animal Biochemistry (BIOS \*835) (3 cr II, even numbered years) Lec/disc. Prereq: BIOS 831 or permission.

838. Molecular Biology Laboratory (BIOC, VBMS 838) (5 cr III) Lec 6, lab 27. Prereq: BIOC 432/832, BIOS 312 and 313, an advanced course in genetics, and permission. Offered summers only.

839. Graduate Study of Biochemistry (BIOC, CHEM 839) (3 cr I) Lec 4. Prereq: Graduate standing in biological chemistry, chemistry or biological sciences or permission.

849. Woody Plant Growth and Development (NRES, HORT 849) (3 cr I) Lec 2. Prereq: CHEM 251; AGRO 325. Offered fall semester of even-numbered calendar year.

852. Molecular Virology and Viral Pathogenesis (VBMS \*852) (3 cr I) Lec 3. Prereq: BIOS 443/843. Offered even-numbered calendar years.

860. Advanced Limnology (NRES 866) (3 cr I) Lec 3. Prereq: NRES 459/859 or equivalent.

864A. Principles of Plant Pathology (3 cr II) Lec/dem 2. Prereq: PLPT 369 or equivalent, and Introduction to Biochemistry; or permission.

\*864B. Principles of Plant Pathology (3 cr I) Lec/dem. Prereq: BIOS/PLPT 369 or equivalent and introduction to biochemistry or permission.

865. Insect Transmission of Plant Diseases (ENTO, PLPT 865) (2 cr II) Lec 2. Prereq: 8 hrs biological sciences including BIOS/ PLPT 464/864 preceding or parallel and 6 hrs entomology or biological sciences (zoology). Offered even-numbered calendar years.

866. Phytopathogenic Nematodes (3 cr) Lec 2, lab 3. Prereq: BIOS/PLPT 464/864 or permission.

867. Plant Pathogenic Bacteria (PLPT 867) (2 cr) Lec 2, lab 3. Prereq: BIOS 312; BIOS/PLPT 464/864; CHEM 432/832 or 436/836 or permission.

867L. Plant Pathogenic Bacteria Lab (1 cr) Lab 3. Prereq: Concurrent registration in BIOS 867.

\*869. Phytopathogenic Fungi (PLPT 869) (3 cr II) Lec 1, lab 2. Prereq: BIOS 312, 805, and 864A, or equivalent with permission. Offered even-numbered calendar years.

\*879. **Plant Growth and Development** (4 cr) Lec 3, lab 3. Prereq: AGRO 325; BIOS 478/878; CHEM 252 or BIOC/BIOS/CHEM 431/831.

\*883. **Chemistry for Secondary School Classrooms** (BIOC/CHEM/TEAC \*869) (3 cr) *This course cannot be taken for graduate credit in chemistry.*

898. **Research in Biochemistry** (1-6 cr, I, II, III) Prereq: BIOC 433/833 or permission.

Refer to the Graduate Bulletin for 900-level courses.

## Chemistry

**Chair:** James M. Takacs, 551 Hamilton Hall

**Vice Chair:** Mark Griep

**Professors:** Berkowitz, DiManno, Du, Dussault, Eckhardt, George, Hage, Harbison, Langell, Li, Parkhurst, Rajca, Redepenning, Takacs, Zeng

**Associate Professors:** Griep, Powers

**Assistant Professors:** Cheung, Choe, Lai, Li

**Professor of Practice:** Kautz, Malina

Often described as the “central science”, chemistry involves the study of the structure, properties, and synthesis of matter ranging in size from single atoms to DNA. A degree in chemistry prepares students for many career options: industry (research, analysis, production), teaching, graduate studies, or professional schools. The bachelor of science (BS) is recommended for students planning graduate studies or professional careers in chemistry and is also an excellent choice for pre-medicine. The bachelor of arts (BA) program is primarily designed for students needing undergraduate training in chemistry as preparation for professional careers outside of chemistry and fits easily into pre-medical, pre-pharmacy, pre-health, and pre-law degree programs. A degree with a chemistry emphasis is available to students enrolled in the Environmental Studies program (see “Environmental Studies” on page 168. Further details concerning the department’s undergraduate program are given on-line at <http://chem.unl.edu/undergrad/>.

**Pass/No Pass.** Students majoring in chemistry may not take chemistry courses Pass/No Pass except for CHEM 396 and/or CHEM 399. Chemistry majors may take up to 6 hours in minor courses Pass/No Pass subject to approval of the department granting the minor.

## Requirements for the Major in Chemistry

**Bachelor of Science.** The required program for the bachelor of science degree with a major in chemistry is:

	Hours
Chemistry.....	43-46
CHEM 113, 114, 116 (or 109, 110, 221), 261, 262, 263 (for 2 cr), 264 (for 2 cr), 431, 433, 481, 482, 484 (for 3 cr), 399 (for at least 2 cr); and at least one of the following course sequences: a) 421, 423 (for 2 cr); b) 441, 443 (for 2 cr)	
English Composition .....	6
Languages.....	0-16
Humanities, Social Sciences, and History.....	21
MATH 106, 107, 208 .....	14
Natural Science electives .....	0
PHYS 211 and 212 .....	8-13 (213 and 222 recommended)
Minority and Non-Western Cultures .....	0-3

**Bachelor of Arts.** The bachelor of arts major requires the following courses in addition to General Education requirements.

	Hours
Chemistry.....	31-35
CHEM 109 & 110 (or 113 & 114), CHEM 221 (or 116), CHEM 251 & 252 (or 261 & 262), CHEM 253 & 254 (or 263 & 264), CHEM 471 (or 481) and at least two of the following course sequences: a) CHEM 421 & 423, b) CHEM 431 & 433, c) CHEM 441 & 443	
MATH 106 & 238 (or 107) .....	10
PHYS 141 & 142 (or 211 & 212) .....	8-10

**Program Assessment.** In order to assist the department in evaluating the effectiveness of its programs, majors will be required in their senior year:

1. To take a standardized chemistry exam during their final year in the program. It will be administered during the middle of the spring semester at a time that is mutually agreeable to all graduating seniors.
2. To participate in an exit interview with a designated faculty member.
3. To submit a copy of the report written for CHEM 399 to the departmental office for evaluation.

The Vice-Chair will inform students of the scheduling and format of assessment activities.

Results of participation in these assessment activities will in no way affect a student’s GPA or graduation.

## Requirements for the Minor in Chemistry

**Plan A.** Requires a freshman chemistry sequence (CHEM 109, 110, and 221 **or** CHEM 113, 114, and 116) plus an additional 12 hours of chemistry excluding CHEM 131, 195, 396, and 399.

**Plan B.** Requires a freshman chemistry sequence (CHEM 109, 110, and 221 **or** CHEM 113, 114, and 116) plus an additional 8 hours of chemistry excluding CHEM 131, 195, 396, and 399.

**Laboratory Fee and Deposit.** Students who enroll in laboratory courses in the Department of Chemistry may be required to pay a small non-refundable cash fee to defray the cost of materials and equipment used in the course. The cost of replacing or repairing equipment that the student may damage in the laboratory will be paid with the student N-Card.

**Graduate Work.** The advanced degrees of master of science and doctor of philosophy are offered. For details, consult the *Graduate Studies Bulletin*.

## Courses of Instruction (CHEM)

(ACE 4) [ES][IS] 105. **Chemistry in Context I** (4 cr) Lec 3, lab 3, rct 1. Prereq: MATH 101, or placement into MATH 102 or above. *Credit toward the degree may be earned in only one of: CHEM 105, 109, 111, 113, 131, or 195. Students planning to take CHEM 251 and 252, or CHEM 261 and 262, should register for CHEM 109 and 110, or CHEM 113 and 114 (the general chemistry sequence). CHEM 105 is the first part of a two-semester sequence, along with CHEM 106, to constitute the “Chemistry in Context” series.* The extraordinary chemistry of ordinary things. The chemical model of solids, liquids, gases, molecules, and salts. How these models are used to explore chemical aspects of biological, social, or economic situations.

[ES][IS] 106. **Chemistry in Context II** (4 cr II) Lec 3, lab 4, rct 1. Prereq: CHEM 105. *Continuation of CHEM 105. CHEM 106 does not serve as a prerequisite for any CHEM course. Students planning to take CHEM 251 and 252, or CHEM 263 and 264, should take CHEM 109 and 110, or CHEM 113 and 114 (the general chemistry sequence). CHEM 106 is the second part of a two-semester sequence, along with CHEM 105, to constitute the “Chemistry in Context” series.*

How organic chemistry and biochemistry complement one another. Chemical aspects of biological, social, or economic situations.

(ACE 4) [ES][IS] 109. **General Chemistry I** (4 cr) Lec 3, lab 4, quiz 4. Prereq: MATH 103 or a Math Placement Test score for MATH 104 or 106. *Credit toward the degree may be earned in only one of: CHEM 105, 109, 111, 113, or 195.*

Introduction to principles of chemistry for students in technical and vocational areas which require chemical training for their major field. Includes states of matter and kinetic molecular theory, atomic theory and structure, chemical bonding and molecular structure, kinetics and equilibria, acid-base and oxidation-reduction reactions.

(ACE 4) [ES] 110. **General Chemistry II** (4 cr) Lec 3, lab and quiz 4. Prereq: CHEM 109.

Application of chemical principles to real systems including treatment of the chemistry of metals and nonmetals, nuclear chemistry, consideration of the organic chemistry of carbon, and biochemical reactions and metabolism.

[ES][IS] 111. **Chemistry for Engineering and Technology** (4 cr) Lec, lab, quiz. Prereq: Math Placement Test score for MATH 106; one unit high school chemistry; one unit high school physics. *Credit towards the degree may be earned in only one: CHEM 105, 109, 111, 113, or 195. Not open to chemical engineering majors. CHEM 111 is a one-semester introduction to the fundamentals of chemistry course for engineering students.*

Fundamentals of chemistry for engineering.

(ACE 4) [ES][IS] 113. **Fundamental Chemistry I** (4 cr) Lec 3, lab 4, quiz 4. Prereq: Math Placement Test score for, MATH 106; one unit high school chemistry; and one unit high school physics. *Credit towards the degree may be earned in only one: CHEM 105, 109, 111, 113, or 195.*

Fundamentals of chemistry for students in physical sciences or chemical engineering. Includes atomic and molecular structure, chemical bonding, states of matter, solutions, and acid-base reactions. Intended for students who plan to take upper-level courses in chemistry.

[ES] 114. **Fundamental Chemistry II** (3 cr) Lec 3, quiz 1. Prereq: CHEM 113. Parallel: CHEM 116.

Chemical kinetics, oxidation-reduction reactions and electrochemistry, ionic solution equilibria, thermodynamic concepts, and chemistry of selected elements.

[ES] 116. **Quantitative Chemistry Laboratory** (2 cr) Conf and lab 8. Prereq: CHEM 113. Parallel: CHEM 114. *Designed for students (including chemistry and chemical engineering) who wish to take advanced laboratory instruction in such courses as CHEM 263, 264, 471/871, 472/872, 482/882, and 484/884. Credit may not be earned in both CHEM 116 and 221.*

Elementary quantitative laboratory instruction in analytical methods and preparations including titrimetry, gravimetry, separations, and use of pH meter and spectrophotometer, qualitative chemical analysis.

[ES] 131. **The Science of Food** (FDST, NUTR 131) (3 cr) Lec 3. For course description, see FDST 131.

191H. **Freshman Honors Chemistry I** (1 cr I) Seminar. Prereq: Open to freshman only; good standing in the University Honors Program; and concurrent registration in CHEM 109 or 111 or 113; 3 units of high school mathematics including algebra and geometry; 1 unit of high school chemistry; 1 unit of high school physics.

Seminar in which special topics in chemistry are taught at a level appropriate for the student population.

192H. **Freshman Honors Chemistry II** (1 cr II) Seminar. Prereq: Open to freshman only; good standing in the University Honors Program; CHEM 109 or 111 or 113, with a minimum grade of “B”; recommendation(s) from chemistry instructor(s) from previous semester; concurrent registration in CHEM 110 or 114; and permission.

Seminar in which special topics in chemistry are taught at a level appropriate for the student population.

**195. Today's Chemistry in Education** (3 cr) Lec 1, lab 4. *This course cannot be used to satisfy the requirements for a minor in chemistry. Credit for the degree may be earned in only one: CHEM 105, 109, 111, 113, or 195.*

Interactive, practical approach to learning chemistry and its relationship to today's world. Intended for elementary and middle-level education majors. Uses the Operation Chemistry model to help students learn the essential chemistry content and teaching practices for elementary-level classrooms.

[ES] **221. Elementary Quantitative Analysis** (4 cr) Lec 3, lab 4. Prereq: CHEM 110. *Credit may not be earned in both CHEM 221 and 116.*

Introduction to principles of quantitative analytical chemistry, including ionic equilibria and solution stoichiometry. Lab instruction includes titrimetry, gravimetry, separations, and use of pH meter and spectrophotometer.

[ES] **251. Organic Chemistry I** (3 cr) Lec 3, quiz 1. Prereq: CHEM 110 or 114, with a minimum grade of C; CHEM 253 or parallel. CHEM 116 or 221 recommended. *CHEM 251 and 252, with their corresponding labs of CHEM 253 and 254, form a continuous basic course.*

Chemistry of carbon compounds. Applications to the biological sciences, agriculture and pre-professional programs including premedical and pre-dental. Emphasizes basic principles.

[ES] **252. Organic Chemistry II** (3 cr) Lec 3, quiz 1. Prereq: CHEM 251 and 253. *Continuation of CHEM 251.*

Chemistry of carbonyl compounds. Aspects of aromatic chemistry, heterocycles, carbohydrates and nitrogen compounds, with some emphasis on the organic compounds found in nature.

[ES] **253. Organic Chemistry I Laboratory** (1 cr) Lab 3. Prereq: CHEM 110 or 114, with a grade of C; CHEM 251. CHEM 116 or 221 recommended. *CHEM 253 shares a quiz section with CHEM 251 and normally accompanies it.*

Basic techniques of organic chemistry. Structure, identification, physical properties of compounds, molecular modeling, and introduction to the spectroscopic characteristics of organic compounds.

[ES] **254. Organic Chemistry II Laboratory** (1 cr) Lab 3. Prereq: CHEM 251, 253; CHEM 252 or parallel. *CHEM 254 shares a quiz section with CHEM 252 and normally accompanies it.*

Synthesis of representative organic compounds. Qualitative analysis of organic compounds. Naturally occurring compounds.

[ES] **261. Organic Chemistry** (3 cr) Lec 3. Prereq: CHEM 114 and 116 with minimum grades of C, or CHEM 221 with minimum grade of C. Parallel: CHEM 263. *Students having credit in CHEM 251, or its equivalent, may not receive credit in CHEM 261.* CHEM 261 and 262, together with lab courses 263 and 264, form a continuous basic course covering the important compounds of carbon.

[ES] [IS] **262. Organic Chemistry** (3 cr) Lec 3. Prereq: CHEM 261. Parallel: CHEM 264. Continuation of CHEM 261.

[ES] **263. Organic Chemistry Laboratory** (2 cr) Lab 6. Prereq: Same as for CHEM 261. *Students having credit in CHEM 251 or its equivalent may receive only 1 hour of credit in CHEM 263.* Students following the professional curriculum in chemistry should elect this course.

[ES] **263A. Organic Chemistry Laboratory** (1 cr) Lab 3. Prereq: Same as for CHEM 261. *Students having credit in CHEM 251 or its equivalent may receive only 1 hour of credit in CHEM 263.* Students having credit in CHEM 251 or its equivalent should elect this course.

[ES] **264. Organic Chemistry Laboratory** (2 cr) Lab 6. Prereq: CHEM 261 and 263. Parallel: CHEM 262. Continuation of CHEM 263. Lab work in qualitative organic analysis.

[ES] **264A. Organic Chemistry Laboratory** (1 cr) Lab 3. Prereq: CHEM 261 and 263A. Parallel: CHEM 262. Continuation of CHEM 263A.

**291H. Honors: Sophomore Chemistry I** (1 cr I) Seminar. Prereq: Sophomore standing; good standing in the University Honors Program; CHEM 110 or 114, with minimum grade of "B"; recommendation(s) from chemistry instructor(s) from previous semester; concurrent registration in CHEM 221 or 251 or 261; and permission.

Seminar in which special topics in chemistry are taught at a level appropriate for the student population.

**292H. Honors: Sophomore Chemistry II** (1 cr II) Seminar. Prereq: good standing in the University Honors Program; CHEM 221 or 251 or 261, with minimum grade of "B"; recommendation(s) from chemistry instructor(s) from previous semester; concurrent registration in CHEM 251 or 252 or 262; and permission. Seminar in which special topics in chemistry are taught at a level appropriate for the student population.

**396. Independent Study** (1-12 cr)

**399. Undergraduate Research in Chemistry** (1-12 cr) Prereq: Permission.

Open to undergraduates desiring to undertake a special research project under the direction of a member of the departmental faculty. The grade will be awarded following the submission of a written progress and/or final report.

[IS] **421/821. Analytical Chemistry** (3 cr) Lec 3. Prereq: CHEM 482/882 and 484/884, or parallel; parallel CHEM 423/823.

Chemical and physical properties applied to quantitative chemical analysis. Emphasis on solution equilibria, stoichiometry, and instrumental theory and techniques.

**423/823. Analytical Chemistry Laboratory** (2 cr) Lab 6. Prereq: Same as for CHEM 421/821.

Lab designed to accompany CHEM 421/821. Applications of analytical chemical principles to laboratory problems.

**431/831. Biomolecules and Metabolism** (BIOC, BIOS 431/831)

(4 cr I, II) Lec 4. Prereq: CHEM 252 or 262. BIOS 102 recommended. *First course of a two-semester comprehensive biochemistry course sequence.*

For course description, see BIOC 431/831.

**432/832. Gene Expression and Replication** (BIOC, BIOS 432/832) (2 cr I, II) Lec 2. Prereq: BIOC 431/831.

For course description, see BIOC 432/832.

**433/833. Biochemistry Laboratory** (BIOC, BIOS 433/833) (2 cr I, II) Lec 1, lab 7. Prereq: BIOC 431/831 or concurrent enrollment.

For course description, see BIOC 433/833.

**434/834. Plant Biochemistry** (AGRO, BIOC, BIOS 434/834) (3 cr, II) Lec 3. Prereq: BIOC/BIOS/CHEM 431/831. *Offered every other year beginning spring 2007.*

For course description, see BIOC 434/834.

**441/841. Inorganic Chemistry** (3 cr) Prereq: CHEM 252 or 262-264. Parallel: CHEM 443/843 or permission.

CHEM 441/841 and the accompanying lab course, CHEM 443/843, constitute a basic course in inorganic chemistry.

Structure, bonding, properties, and reactions of inorganic compounds with emphasis on the relationships and trends that are embodied in the periodic table of the elements.

**443/843. Inorganic Chemistry Laboratory** (2 cr) Prereq: CHEM 252 or 262-264. Parallel: CHEM 441/841 or permission.

Introduction to typical inorganic chemistry laboratory techniques through the preparation and characterization of inorganic compounds.

**463/863. Advanced Organic Preparations** (1-5 cr, max 5) Lab 3-15. Prereq: CHEM 252 or 254. *For students who wish additional laboratory work in organic chemistry.*

[IS] **471/871. Physical Chemistry** (4 cr) Lec 3, rct 1. Prereq: CHEM 114 and 116, or 221, with a grade of Pass or C or better; MATH 106/108H and 238, or 107/107H; one year college physics. *Credit toward the degree may be earned in only one of: CHEM 471/871 and 481/881.*

Conceptual and mathematical foundations of classical and statistical thermodynamics. Applications of thermodynamics to phase and chemical equilibria. Thermodynamics of solutions of small molecules and of polymers. Biological applications of thermodynamics. Introduction to chemical and biochemical spectroscopy.

**481/881. Physical Chemistry I** (4 cr) Lec 3, rct 1. Prereq: CHEM 114 and 116 with grades of at least C, or CHEM 221 with grade of at least C; MATH 208, PHYS 212 and (recommended) 222. *Credit may not be earned in both CHEM 471/871 and 481/881.* CHEM 481/881 and 482/882 with accompanying lab 484/884 form a continuous basic course in physical chemistry for students interested in chemistry as a profession. Thermodynamics and

statistical mechanics and their application to the study of solids, liquids, gases, solutions, phase equilibria, and chemical equilibria.

**482/882. Physical Chemistry II** (4 cr) Lec 3, rct 1. Prereq: CHEM 481/881. *This course should parallel CHEM 484/884.* Continuation of CHEM 481/881. Statistical mechanics and thermodynamics and their applications to the study of solids, liquids, gases, solutions, and chemical equilibria. Introduction to quantum mechanics and its application to problems in atomic and molecular structure and to spectroscopy. Chemical kinetics.

[IS] **484/884. Physical Chemical Measurements** (3 cr) Lab 9. Prereq: CHEM 481/881. Parallel with CHEM 482/882.

**484A/884A. Physical Chemical Measurements** (2 cr) Lab 6. Prereq: CHEM 481/881. Parallel with CHEM 482/882.

[IS] **486/886. Advanced Topics in Biophysical Chemistry** (BIOC, BIOS 486/886) (3 cr) Lec 3. Prereq: CHEM 471/871 or 481/881.

For course description, see BIOC 486/886.

**498. Undergraduate Research** (1-6 cr I, II, III) Prereq: BIOC 433 and permission.

Research on a specific biochemical project under the supervision of a biological chemistry faculty member.

**\*824. Applied Problems in Analytical Chemistry** (3 cr) Prereq: CHEM 821 or permission.

**\*825A. Ionic Equilibria** (1 cr) Lec 1. Prereq or parallel: CHEM 821 or \*824.

**\*825B. Electrochemical Methods** (2 cr) Lec 2. Prereq: CHEM 821 or \*824.

**\*825D. Mass Spectrometry** (2 cr) Lec 1-2. Prereq: CHEM 821 or \*824 or permission.

**\*825E. Data Handling** (1 cr) Lec 1. Prereq or parallel: CHEM 821 or \*824.

**\*825G. Chromatographic Separations** (2 cr) Lec 2. Prereq: CHEM 821 or \*824.

**\*825J. Optical Methods of Analysis** (2 cr) Lec 2. Prereq: CHEM 821 or \*824.

**\*835. Chemical Biology** (3 cr) Lec 3. Prereq: CHEM 252 or 262, and CHEM 471 or 481, or permission. *Credit may not be earned in both CHEM 835 and 831 and 832 or their equivalents.*

**836. Biophysical Chemistry** (BIOC 836) (3 cr II) Lec 3. Prereq: One semester of physical chemistry or permission.

**\*839. Graduate Survey in Biochemistry** (BIOC, BIOS 839) (3 cr I)

**\*845. Modern Inorganic Chemistry** (3 cr) Prereq: CHEM 841, 843, and 882 or permission.

**\*848. Redox Biochemistry** (BIOC \*848) (3 cr) Prereq: 3 hrs BIOC.

**\*855. Theoretical Organic Chemistry** (3 cr) Prereq: CHEM 252 or 262 or the equivalent from another college or permission.

**\*865. Organic Reactions** (3 cr) Lec 3. Prereq: CHEM \*855 or permission.

**\*869 (869x). Chemistry for Secondary School Classrooms** (BIOC/TEAC \*869; BIOS 883) (3 cr) *This course cannot be taken for graduate credit in chemistry.*

**\*885. Survey of Modern Physical Chemistry** (3 cr)

**\*898. Special Problems** (1-24 cr) Prereq: Permission.

**\*899. Masters Thesis** (6-10 cr)

Refer to the Graduate Bulletin for 900-level courses.

## Classics and Religious Studies

**Chair:** Sidnie White Crawford, 236 Andrews Hall

**Professors:** S. Crawford, Turner

**Associate Professors:** Athanassopoulos (anthropology),

Burnett (history), Duncan, Rinkevich, Winter

**Assistant Professors:** Gorman, Lahey, Wood

**Senior Lecturer:** D. Crawford

**Assistant Professor of Practice:** Watley

The courses and majors in the Department of Classics and Religious Studies have been designed to meet the needs of three categories of students:

1. Those who wish to pursue the subjects for general educational purposes;
2. Those who plan to major and do graduate work in classics or religious studies;
3. Those who want to become high school Latin teachers.

Any student who studies classics and religious studies will acquire the basic elements of a liberal education and a beneficial background for study in professional schools.

**Pass/No Pass.** Departmental permission to take major or minor courses for Pass/No Pass credit must be obtained. Request forms are available in the Arts and Sciences Advising Center, 107 Oldfather Hall.

**Graduate Work.** The advanced degree of master of arts is offered. For details of this program see the Graduate Studies Bulletin.

### The Major in Classics and Religious Studies

The classics and religious studies major offers a wide range of courses in the civilization, religions and culture of the ancient Mediterranean world, as well as ancient and modern religions broadly conceived. It is an interdisciplinary major with two areas of emphasis, one in Classics and one in Religious Studies. Depending on your chosen emphasis, this major is designed to provide you with an excellent background to pursue graduate work in classical languages and literature, classical archaeology, ancient history, religious studies, literary scholarship, and other humane disciplines. In addition, the broad and humane education offered by the major serves as excellent preparation for careers in law, medicine, journalism, religion, business and education.

### The Major in Classical Languages

This major is intended primarily for those interested in graduate study of the Greco-Roman world. As competency in both Greek and Latin is requisite for graduate study, students must take courses in both languages to complete the major. This major is also appropriate for students who wish to undertake advanced study in related fields such as linguistics, or to teach high school Latin.

**Study Abroad.** Advanced undergraduates are encouraged to further their studies abroad. Students may choose from among several established programs that cover a full academic year, semester, or summer. Most ancient studies programs offer a variety of courses in classics, ancient and modern

languages, and history. In addition, students are introduced to the archaeology and art of the culture by frequent trips to sites and museums. These programs include, but are not limited to the American School of Classical Studies at Athens, College Year in Athens, the Intercollegiate Center for Classical Studies in Rome, and The Hebrew University in Jerusalem.

Also, UNL faculty frequently offer archaeological study tours to Greece, Italy, Turkey and Egypt during the summers. The department administers the Clarence A. Forbes Fellowship for study abroad.

### Requirements for the Major in Classics and Religious Studies

The major requires 30 hours of courses. Students will choose 9 hours from the Core Course list below. In addition, each student will choose an emphasis in either Classics or Religious Studies (described below). 12 hours must be taken at the 300 level or above. The student may count up to 6 hours above the 100 level in Greek, Latin, or Hebrew toward the major. No more than 6 hours of independent study may count toward the major. A minor is required and may be any Plan A minor approved by the College.

#### Core Courses:

- CLAS 180. Classical Mythology (3 cr)
- CLAS 283. Epic Tales (3 cr)
- CLAS 286. Literature of the Ancient Near East (3 cr)
- CLAS 305. Ancient Greek Religions (RELG 305) (3 cr)
- CLAS 307. Early Christianity (HIST/RELG 307) (3 cr)
- CLAS 312. Pagans & Christians in the Roman Empire (RELG 312) (3 cr)
- CLAS 331. Ancient Israel (HIST/JUDS/RELG 331) (3 cr)
- RELG 181. Judaism, Christianity, and Islam (3 cr)

### Requirements for the Emphasis in Classics

Students may divide their courses among the following areas, provided 6 hours are taken in each area. Core courses may also count toward the area requirements.

#### Area A. Arts and Archaeology

- AHIS 211. Classical Art & Archaeology
- AHIS 311. Greek Art & Archaeology
- AHIS 313. Roman Art & Archaeology
- AHIS 411. Classical Architecture
- AHIS 413. Roman Painting
- CLAS 252. Archaeology of World Civilizations (ANTH 252)
- CLAS 320. The Classical World: Archaeology & Texts
- CLAS 438/838. Topics in Old World Prehistory (ANTH 438)

#### Area B. Language, Thought, and Literature

- CLAS 180. Classical Mythology
- CLAS 183. Heros, Harlots & Helots
- CLAS 281. The World of Classical Greece (ENGL 240A)
- CLAS 282. The World of Classical Rome (ENGL 240B)
- CLAS 283. Epic Tales: The World's Heros & Gods
- CLAS 286. Literature of the Ancient Near East
- CLAS 381. Ancient Novel (ENGL 382)
- CLAS 409. Religion of Late Western Antiquity (HIST/RELG 409)
- CLAS 483. Classical Drama (ENGL 440)

- ENGL 340. Classical Roots of English Literature
- PHIL 231. History of Philosophy (Ancient)
- PHIL 336. Ethics: Ancient & Medieval
- PHIL 337. Knowledge: Ancient & Medieval
- PHIL 338. Metaphysics: Ancient & Medieval
- PHIL 450. Ancient Philosophy

#### Area C. Historical Studies

- CLAS 233. Science in the Classical World
- CLAS 245. War in the Classical World
- CLAS 305. Ancient Greek Religions (RELG 305)
- CLAS 307. Early Christianity (HIST/RELG 307)
- CLAS 312. Pagans & Christians in the Roman Empire (RELG 312)
- CLAS 315. Medieval World: Byzantium (HIST 315)
- CLAS 331. Ancient Israel (HIST/JUDS/RELG 331)
- HIST 210. Ancient Greece & Rome
- HIST 311. The World of Homer
- HIST 318. The Roman Empire
- HIST 412. City States in Classical Greece
- HIST 417. The Roman Revolution, 133 BCE-68 CE

### Requirements for the Emphasis in Religious Studies

Students may divide their courses among the following areas, provided 6 hours are taken in each area. Core courses may also count toward the area requirements.

#### Area D. The Nature of Religion

- RELG 125W. Religion, Peace & Social Justice
- RELG 150. Explaining Religion
- RELG 206. Ways of Western Religion
- RELG 220. Reason & Religion
- RELG 225. Science & Religion
- RELG 310. Great Ideas in Religious Thought: From God to Nothingness
- RELG 418. Fundamentalism, Religion, & Politics
- PHIL 265. Philosophy of Religion
- PHIL 338. Metaphysics: Ancient & Medieval
- SOCI 452. Sociology of Religion

#### Area E. Biblical Studies

- RELG 205. Intro to the Hebrew Bible/Old Testament (JUDS 205)
- RELG 212W. Life & Letters of Paul
- RELG 217. Israel: The Holy Land
- RELG 306. Second Temple Judaism (JUDS 306)
- RELG 307. Early Christianity (CLAS/HIST 307)
- RELG 331. Ancient Israel (CLAS/HIST/RELG 331)
- RELG 340. Women in the Biblical World (JUDS/WMNS 340)
- RELG 408. Dead Sea Scrolls (CLAS/JUDS 408)
- ENGL 341. The Bible as Literature

#### Area F. The Study of Religious Traditions

- RELG 108. World Religions
- RELG 130W. Women & Religion
- RELG 134W. Religious Diversity in the United States
- RELG 181. Judaism, Christianity & Islam
- RELG 208. Intro to Islam
- RELG 209. Judaism & Christianity in Conflict & Coexistence (JUDS 209)
- RELG 305. Ancient Greek Religions (CLAS 305)
- RELG 318. Islam in the Modern World
- RELG 332. Jews in the Middle Ages (HIST/JUDS 332)
- RELG 334. Jews, Christians & the Bible (JUDS 334)
- RELG 370. Religion & Reform: Utopian & Communal Societies
- RELG 409. Religion of Late Western Antiquity (CLAS/HIST 409)
- RELG 410. Gnosticism (CLAS 410)
- RELG 489. Medieval Literature & Theology (ENGL 489)
- CLAS 286. Literature of the Ancient Near East
- CLAS 312. Pagans & Christians in the Roman Empire (RELG 312)
- HIST 218. History of Islam

- HIST 219. Intro to Jewish History (JUDS/RELG 219)  
 HIST 220. History of Christianity  
 HIST 421. The German Reformation  
 JUDS 350. Literature of Judaism  
 MUSC 451. Music & the Church  
 MUSC 452. Hymnology

**Program Assessment.** In order to assist the department in evaluating the effectiveness of its programs, majors will be required:

1. To assemble and maintain a portfolio to include the syllabus and a copy of all written exams and assignments for each course applied toward the major.
2. In their senior year, to complete a written exit survey.

The undergraduate adviser will inform students of the scheduling and format of assessment activities.

Results of participation in these assessment activities will in no way affect a student's GPA or graduation.

## Requirements for the Minor in Classics

- A minimum of 18 hours in the courses listed in A, B, and C. At least 3 hours must be taken from each area, and at least 9 of those hours must be CLAS. At least 6 hours must be above 299.

## Requirements for the Minor in Religious Studies

- A minimum of 18 hours in the courses listed in D, E, and F. At least 3 hours must be taken from each area, and at least 9 of those hours must be RELG. At least 6 hours must be above 299.

## Requirements for the Major in Classical Languages

- 21 hours of courses in Latin or Greek numbered 300 or above. At least two courses must be taken in each language. Normally, no more than 6 hours of 399 credit may count towards major requirements. A minor is required and may be any Plan A minor offered by the College with the consent of the adviser.

**Program Assessment.** In order to assist the department in evaluating the effectiveness of its programs, majors will be required:

1. To assemble and maintain a portfolio to include the syllabus and a copy of all written exams and assignments for each course taken for the major above 299.
2. In their senior year, to complete a translation/essay exam.
3. In their senior year, to complete a written exit survey.

The undergraduate adviser will inform students of the scheduling and format of assessment activities.

Results of participation in these assessment activities will in no way affect a student's GPA or graduation.

## Requirements for the Minor in Greek and the Minor in Latin

- 12 hours in Greek or Latin numbered above 299.

## Courses of Instruction

### Classics (CLAS)

The courses in this category do not require knowledge of Greek or Latin.

#### 116. Scientific Greek and Latin (2 cr)

Scientific and technical terminology derived from Greek and Latin, with primary emphasis on medical language and terminology.

#### (ACE 5) [ES] 141. Spectacle and Entertainment in the Roman World (3 cr) Lec 3.

Introduction to ancient Rome. Mass spectacles such as drama, gladiatorial combat, and public executions.

#### (ACE 5) [ES][IS] 180. Classical Mythology (3 cr)

Literary sources of Greek and Roman myths and their influence.

#### [ES][IS] 182. Alpha Learning Community Freshman Seminar (3 cr) Requires enrollment in the Alpha Learning Community Program. CLAS 183 is normally taken in the next term.

Topic varies.

#### (ACE 9) [ES][IS] 183. Heros, Harlots and Helots (3 cr)

Introduction to the society of the ancient Greeks and Romans through study of the family and domestic institutions.

#### [ES][IS] 189H. University Honors Seminar (3 cr) Prereq: Good standing in the University Honors Program or by invitation.

*University Honors Seminar 189H is required of all students in the University Honors Program.*

Topic varies.

#### (ACE 5) [ES] 233. Science in the Classical World (3 cr) Prereq: Sophomore standing.

Interplay of knowledge, technology, and culture. Sources are the Egyptian, Hellenic, and Hellenistic wall-paintings, vase paintings, the artifacts, and surviving writings of, e.g. Hippocrates, Aristotle, and Vitruvius. These permit us to see the technical advances of the practitioners and to watch the slave-owning philosophers and engineers of the ancient eastern Mediterranean struggling to provide systematic explanations of these advances and of the natural world they see around them.

#### (ACE 5) [ES] 245. War in the Classical World (3 cr)

Ancient war as practiced from Classical Greece to Imperial Rome. Weapons, tactics, strategies, leadership and rationale.

#### (ACE 6, 9) [ES][IS] 252. Archaeology of World Civilizations (ANTH 252) (3 cr)

For course description, see ANTH 252.

#### (ACE 5) [ES][IS] 281. The World of Classical Greece (ENGL 240A) (3 cr)

English translations of the great works of Greek literature, which familiarize the student with the uniquely rich and influential world of Classical Greece.

#### (ACE 5) [ES][IS] 282. The World of Classical Rome (ENGL 240B) (3 cr)

English translations of the great works of Latin literature, which familiarize the student with the uniquely rich and influential world of Classical Rome.

#### [ES][IS] 283. Epic Tales: The World's Heros and Gods (3 cr)

Prereq: Sophomore standing.

Survey of epics and their meaning, ranging from ancient epics to the Medieval and Renaissance epic literature including selected epics with their criticisms and influences.

#### [ES] 286. Literature of the Ancient Near East (3 cr) Prereq:

Sophomore standing.

Selections from the literary texts and records of North Africa, Mesopotamia, Palestine, and Asia Minor.

#### 300. Introduction to Ancient Languages (3 cr) Prereq: Foreign language study or permission.

Introduction to various languages of the ancient Mediterranean World. Examples: Classical (Biblical) Hebrew, Coptic, Egyptian, Sanskrit.

#### 300B. Egyptian (3 cr)

Egyptian hieroglyphics and language, grammar, syntax, and vocabulary, for reading a work, such as *Khufu and the Magicians*.

#### 300E. Introduction to Coptic (3 cr)

Introduction to Coptic (Sahidic dialect), the final written phase of the Egyptian language (ca. 100 BCE-1850 CE), in which the words were written in capital Greek letters rather than hieroglyphic characters. Equips student with a knowledge of Coptic grammar and vocabulary sufficient to interpret Coptic texts such as the Coptic Bible and the Nag Hammadi Codices at an elementary level.

#### [ES] 305. Ancient Greek Religions (RELG 305) (3 cr)

Introduction to the religious practices of ancient Greece from the prehistoric through the classical periods. Myth and ritual and the evidence from art history and archaeology.

#### [ES] 307/807. Early Christianity (RELG 307, HIST 307/807) (3 cr)

Life, literature, thought, and institutions of the Christian movement from Jesus to Constantine. A critical, historical approach to the sources in English translation and how they reflect the interaction of Christian, Jew, and pagan in late antiquity. Includes the historical Jesus vis-a-vis the Christ of Faith, the impact of Paul's thought, the formation of Christian dogma, methods of interpreting canonical and extra-canonical Christian literature, the problem of heresy and orthodoxy.

#### [ES] 312. Pagans and Christians in the Roman Empire (RELG 312) (3 cr) Lec 3.

The social, political and intellectual dimensions of the conflict between the old and new religions of the empire.

#### [IS] 315. Medieval World: Byzantium (HIST 315) (3 cr)

Exploration of the key dimensions of Byzantium's social, economic and cultural developments, the role of Byzantium in world history, and the nature of the Byzantine legacy in contemporary Eastern Europe, Russia and the Balkans.

#### [IS] 320. The Classical World: Archaeology and Texts (3 cr)

Relation between archaeology and textual sources in classical antiquity as used to understand aspects of daily life (e.g., economy and trade, gender, ethnic identity, religion, political organization, etc.).

#### [ES] 331. Ancient Israel (HIST, JUDS, RELG 331) (3 cr) Prereq: Sophomore standing or permission.

For course description, see HIST 331.

#### [ES] 381. Ancient Novel (ENGL 381) (3 cr) Prereq: Junior standing or permission.

English translation of the Greek and Roman novel.

#### 398. Special Topics in Classics (1-24 cr) Prereq: Permission.

#### 399. Independent Study in Classics (1-24 cr) Prereq: Permission.

#### 399H. Honors Course (1-4 cr) Prereq: Candidate for degree with distinction or with high distinction or with highest distinction in the College of Arts and Sciences.

#### 408/808. Dead Sea Scrolls (JUDS, RELG 408) (3 cr) Prereq: JUDS/RELG 205 or 306 or permission.

Dead Sea Scrolls, including the history and thought of the Qumran inhabitants, the archaeology of Qumran, and the corpus of the Scrolls. Concentration on the reading of selected primary texts from the Dead Sea Scrolls.

#### [ES][IS] 409/809. Religion of Late Western Antiquity (HIST 409/809, RELG 409) (2-3 cr)

Examination of the religious institutions, philosophies, and lifeways of the Hellenistic Age from Alexander to Constantine. Includes civic religion of Greece and Rome, popular religion, mystery cults, Judaism, Christianity, popular and school philosophies (Platonism, Aristotelianism, Epicureanism, Cynicism, Stoicism), Gnosticism. History, interrelationships, emerging world view of these movements.

**410/810. Gnosticism (RELG 410) (3 cr)**

Examination of the nature, history, literature, ritual, and impact of the classical Gnostic religions, 100 BCE to 400 CE. Extensive reading of original Gnostic treatises in English translation, with particular attention to their appropriation and transformation of earlier Jewish, Christian, and pagan religious and philosophical traditions. The principal Gnostic schools to be treated are Simonians, Sethians, Valentinians, Hermetics, and Manichaeans.

**438/838. Topics in Old World Prehistory (ANTH 438/838) (3 cr) Lec 3. Prereq: ANTH 242 or equivalent.**

For course description, see ANTH 438/838.

**440/840. Gender and Sexuality in the Ancient World (WMNS 440/840) (3 cr) Lec 3.**

Ancient Greek and Roman evidence pertaining to the fields of women's studies, gender studies, and the study of sexuality.

**[ES] 483/883. Classical Drama (ENGL 440/840) (3 cr) Prereq: Senior standing or permission.**

Greek and Roman tragedy and comedy in translation.

Refer to the Graduate Bulletin for 900-level courses.

**Greek (GREK)****101. Elementary Greek I (5 cr)**

Fundamentals of grammar; reading and writing of simple Greek.

**102. Elementary Greek II (5 cr) Continuation of GREK 101.**

Reinforcement of grammar and vocabulary. Reading of Attic prose.

**151. Accelerated Greek (3 cr) Lec 3. Credit toward the degree may be earned in only one of GREK 102 and 151.**

Rapid and condensed introduction to Greek grammar.

**301. Greek Prose I (3 cr) Lec 3. Prereq: GREK 102.**

Selections from Greek prose. Review of grammar.

**302. Greek Poetry (3 cr) Lec 3. Prereq: GREK 102.**

Selections from Greek poetry and study of Greek poetic technique. Review of grammar.

**373. New Testament Greek (3 cr) Prereq: GREK 102.****399. Independent Study in Greek (1-24 cr) Prereq: Permission.****399H. Honors Course (1-4 cr) Prereq: For use of candidates for degrees with distinction, with high distinction, and with highest distinction in the College of Arts and Sciences.****[IS] 491/891. Topics in Greek Prose (3 cr, max 24) Repeatable.**

Readings from Greek prose masterpieces, Topics vary.

**[IS] 492/892. Topics in Greek Poetry (3 cr, max 24) Repeatable.**

Readings from Greek verse masterpieces, Topics vary.

**896. Reading and Research (1-24 cr) Prereq: Permission.****899. Masters Thesis (6-10 cr)**

Refer to the Graduate Bulletin for 900-level courses.

**Hebrew (HEBR)****101. Elementary Biblical Hebrew I (5 cr)**

Fundamentals of grammar; reading and writing of simple Biblical Hebrew.

**102. Elementary Biblical Hebrew II (5 cr) Lec 5. Continuation of HEBR 101.**

Reinforcement of grammar and vocabulary. Reading of selected biblical passages.

**301. Biblical Hebrew Prose (3 cr) Lec 3. Prereq: HEBR 102.**

Intensive and extensive reading of Biblical Hebrew prose texts. Review of grammar.

**302. Biblical Hebrew Poetry (3 cr) Lec 3. Prereq: HEBR 102.**

Intensive and extensive reading of Biblical Hebrew poetry texts. Review of grammar.

**399. Independent Study in Biblical Hebrew (1-3 cr) Prereq: Permission.****896. Reading and Research (1-24 cr) Prereq: Permission.****Latin (LATN)**

The department advises students who come to the University with one or two semesters of Latin in high school to take LATN 101; three or four semesters of Latin in high school to take LATN 151; and five or six semesters of Latin in high school to take LATN 302.

Persons expecting to teach Latin should consult with the chief adviser when they enter the University.

**101. Elementary Latin I (5 cr) Lec 5.**

Fundamentals of grammar. Reading and writing of simple Latin.

**102. Elementary Latin II (5 cr) Lec 5. Continuation of LATN 101.**

Reinforcement of grammar and vocabulary. Reading of simple prose and Caesar.

**151. Accelerated Latin (3 cr) Lec 3. Credit towards the degree may be earned in only one of LATN 102 and 151.**

Rapid and condensed introduction to Latin grammar.

**301. Latin Prose I (3 cr) Prereq: LATN 102.**

Selections from Latin prose.

**302. Latin Poetry I (3 cr) Lec 3. Prereq: LATN 102 or 151.**

Selections from Latin poetry and study of Latin poetic technique.

**303. Latin Prose II (3 cr) Prereq: LATN 102.**

Selections from Latin prose.

**304. Latin Poetry II (3 cr) Lec 3. Prereq: LATN 102 or 151.**

Selections from Latin poetry. Latin poetic technique.

**350. The Vulgate: The Latin Bible (3 cr) Prereq: LATN 301 or 302.**

Selected readings on grammar and vocabulary.

**399. Independent Study in Latin (1-24 cr) Prereq: Permission.****399H. Honors Course (1-4 cr) Prereq: For use of candidates for degrees with distinction, with high distinction, and with highest distinction in the College of Arts and Sciences.****456/856. Latin of the Middle Ages (3 cr) Prereq: LATN 302 or permission.**

Selections from representative authors.

**[IS] 491/891. Topics in Latin Prose (3 cr, max 24) Repeatable.**

Readings from Latin prose masterpieces, Topics vary.

**[IS] 492/892. Topics in Latin Poetry (3 cr, max 24) Repeatable.**

Readings from Latin verse masterpieces, Topics vary.

**896. Reading and Research (1-24 cr) Prereq: Permission.****899. Masters Thesis (6-10 cr)**

Refer to the Graduate Bulletin for 900-level courses.

**Religious Studies (RELG)**

Courses listed with a W in the last position of the course number are taught at Nebraska Wesleyan University (NWU).

**(ACE 9) [ES] 108. World Religions (3 cr) Lec 3.**

The world's major religious traditions: Judaism, Christianity, Islam, Hinduism, Buddhism, Taoism, and Confucianism.

**[ES] 125W. Religion, Peace and Social Justice (3 cr)**

Explores religious, particularly Christian, responses to social justice issues such as peace, poverty, oppression, discrimination, the environment, the death penalty and abortion.

**[ES] 130W. Women and Religion (3 cr)**

Readings and documents from church history dealing with attitudes toward women in Western religious thought. How this thinking has influenced theological concepts confronting women today and the role of theology in leading toward the emancipation of women in contemporary society.

**[ES] 134W. Religious Diversity in the United States (3 cr) Prereq: Permission.**

Introduction to the religious traditions in the U.S. through thematic, historical, denominational and cultural considerations. Emphasizes the variety and diversity of religious experiences in the U.S., including Native American, Protestant, Catholic, African-American, Judaism, Islamic, Hindu and Buddhist traditions.

**(ACE 5) [ES][IS] 150. Explaining Religion (3 cr)**

Introduction to religion as an academic subject. Examines religion in terms of four interconnected elements: myth, ritual, transformative experience, and ethics. Representative materials drawn from different religions and cultures, including both western and non-western traditions.

**(ACE 9) [ES] 181. Judaism, Christianity and Islam (3 cr)**

A comparative study of the three great monotheistic faiths, from their historic beginnings to their present-day manifestations.

**[ES][IS] 182. Alpha Learning Community Freshman Seminar (3 cr) RELG 182 requires enrollment in the Alpha Learning Community Program.**

Topic varies.

**[IS] 189H. University Honors Seminar (3 cr) Lec 3. Prereq:**

Good standing in the University Honors Program or by invitation. *University Honors Seminar 189H is required of all students in the University Honors Program. Cannot be taken Pass/No Pass.* Topic varies.

**(ACE 5) [ES][IS] 205. Introduction to the Hebrew Bible/Old Testament (JUDS 205) (3 cr)**

Introduction to the Hebrew Bible/Old Testament in translation. History, culture and religion of Ancient Israel as it is reflected in the biblical books and the archaeological record.

**(ACE 5) [ES][IS] 206. Ways of Western Religion (3 cr)**

Introduction to the nature and range of religious traditions in western culture from the Bronze Age to the present as seen through selected primary religious texts. Nature of religion and religious tradition, how these function to shape our view of self and society, and how religion functions to render human experience interpretable and significant.

**(ACE 9) [ES][IS] 208. Introduction to Islam (3 cr)**

Introduction to the religion and history of Islam. The Prophet Muhammad, the Qur'an, jihad, Islamic theology and law, Sufism, and modern Islam. Diversity of Islam in contrast to images of monolithic Islam. Status of women. Islam in the United States.

**(ACE 9) [ES] 209. Judaism and Christianity in Conflict and Coexistence (JUDS 209) (3 cr)**

The history of Jewish-Christian relations from the birth of Christianity until the present. Readings from primary and secondary sources as written by Jewish and Christian authors.

**[ES] 212W. Life and Letters of Paul (3 cr)**

Pauline literature, Paul's interpretation of Jesus, and his work as missionary to the Gentiles. Acts and the Pauline Epistles are primary sources. Contemporary analyses of Pauline thought and its importance for the contemporary situation.

**(ACE 9) [ES] 217. Israel: The Holy Land (HIST, JUDS 217) (3 cr) For course description, see HIST 217.****(ACE 9) [ES] 219. Introduction to Jewish History (HIST, JUDS 219) (3 cr) Lec 3. For course description, see HIST 219.****(ACE 5) [ES] 220. Reason and Religion (3 cr)**

Issues arising from the attempt to understand the human encounter with the divine. Introduces the study of philosophical theology. Significant figures from the past and contemporary approaches.

**(ACE 5) [ES][IS] 225. Science and Religion (3 cr)**

The clash between science and religion, past and present. Are current scientific theories of the origin of the universe and the evolution of matter, life and mind compatible with religious belief? Responses to science by various religious movements.

[ES] 305. Ancient Greek Religions (CLAS 305) (3 cr)  
For course description, see CLAS 305.

[IS] 306. Second Temple Judaism (JUDS 306) (3 cr)  
An in-depth study of the literature, history and culture of Judea and the Jews in the Second Temple period, from 550 BCE to 70 CE. Readings include apocalyptic texts, Wisdom literature, and selections from the Dead Sea Scrolls.

[ES] 307. Early Christianity (CLAS, HIST 307/807) (3 cr)  
For course description, see CLAS 307/807.

[ES][IS] 310. Great Ideas in Religious Thought: From God to Nothingness (3 cr)  
Six traditions in the history of religious thought, from Greek and medieval conceptions of divinity through the Enlightenment to the modern era, including existentialist, humanistic, and atheistic responses to religion, and Buddhist thought. A comparative look at central religious ideas within these traditions contrasting western and non-western conceptions of ultimate reality, self, ethics, and responses to evil.

[ES] 312. Pagans and Christians in the Roman Empire (CLAS 312) (3 cr) Lec 3.  
For course description, see CLAS 312.

[ES][IS] 318. Islam in the Modern World (3 cr) Lec 3.  
Diversity of Islam in the modern world. Muslim responses to modernity. Traditionalism, secularism, Islamic modernism, and Islamic fundamentalism.

[ES] 331. Ancient Israel (CLAS, HIST, JUDS 331) (3 cr) Prereq: Sophomore standing or permission.  
For course description, see HIST 331.

[ES] 332. Jews in the Middle Ages (HIST, JUDS 332) (3 cr) Prereq: Sophomore standing or permission.  
For course description, see HIST 332.

[ES] 334. Jews, Christians and the Bible (JUDS 334) (3 cr)  
Jewish and Christian interpretations of the Hebrew Bible and/or Old Testament from 400 BCE to 1800 CE. Readings from the Dead Sea Scrolls and the New Testament, the Church Fathers and the Talmud, medieval and early modern Christian and Jewish biblical commentators.

[ES][IS] 340. Women in the Biblical World (JUDS, WMNS 340) (3 cr) Lec 3.  
Role and status of women as depicted in the Hebrew Bible/ Old Testament and the New Testament. The stories and laws concerning women found in the Bible and from extra-biblical evidence.

[IS] 370. Religion and Reform: Utopian and Communal Societies in America (3 cr)  
Communal and utopian societies residing in North America, seventeenth century to present. Belief systems, organization, and spiritual and secular challenges to these groups.

398. Special Topics in Religious Studies (1-3 cr, max 6 cr)  
Topics vary.

399. Independent Study in Religious Studies (1-12 cr, max 12)  
Prereq: Permission.

408. Dead Sea Scrolls (CLAS 408/808, JUDS 408) (3 cr) Prereq: JUDS/RELG 205 or 306 or permission.  
For course description, see CLAS 408/808.

[ES][IS] 409. Religion of Late Western Antiquity (CLAS, HIST 409/809) (3 cr)  
For course description, see CLAS 409/809.

410/810. Gnosticism (CLAS 410) (3 cr)  
For course description, see CLAS 410/810.

[IS] 418. Fundamentalism, Religion, and Politics (3 cr) Lec 3.  
Phenomenon of religious fundamentalism. Theories advanced to define and explain fundamentalism. Examples of fundamentalism in Judaism, Christianity, Islam, Hinduism, Kikhis, and Buddhism.

[IS] 489/889. Medieval Literature and Theology (ENGL 489/889) (3 cr)  
For course description, see ENGL 489/889.

## Communication Studies

**Chair:** William Seiler, 433 Oldfather  
**Director of Forensics:** Aaron Duncan  
**Professors:** Braithwaite, Krone, R. Lee, Seiler  
**Associate Professor:** Japp  
**Assistant Professors:** Kellas, Lucas, Soliz  
**Assistant Professor of Practice:** K. Lee

Communication studies is a humanistic and scientific field of study, research, and application. Its focus is upon how, why, and with what effects people communicate through verbal and nonverbal messages. Just as political scientists are concerned with political behavior and economists with economic behavior, the student of communication studies is concerned with communicative behavior.

Communication studies calls for dynamic personal involvement. Students create and test their ideas, develop individual abilities, and gain competence in various communicative settings. They acquire knowledge and methods that apply to nearly every aspect of their private and public lives—in the classroom as well as outside.

Students declaring a major in communication studies should obtain a copy of the *Guide to Undergraduate Studies in Communication Studies* from the departmental office and consult with the undergraduate adviser in communication studies immediately upon declaring the major.

The bachelor of arts degree in communication studies is offered in the College of Arts and Sciences. Dual registration in the College of Arts and Sciences and in the College of Education and Human Sciences leading to a major in communication studies, speech and dramatic art, or language arts with teacher certification is also possible. For information on programs leading to degrees with teacher certification see the College of Education and Human Sciences section of this bulletin.

### University Debate and Forensics

The University of Nebraska–Lincoln offers a nationally recognized debate and forensics program of participation in campus and intercollegiate debate, public speaking, and interpretation events. The program gives students the opportunity to compete at the local, state, regional, and national level. No previous debate or speech experience is required. All students who are in good standing may take part in intercollegiate debate and forensics.

**Pass/No Pass..** Availability of Pass/No Pass credit in communication studies courses is at the discretion of the course director and/or instructor of the course. Although the department discourages Pass/No Pass credit for majors, up to 6 hours of Pass/No Pass credit may be applied to the major requirements. Up to 6 hours Pass/No Pass credit is permitted toward the minor, subject to the approval of the department granting the major. Request forms are available in the Arts and Sciences Advising Center, 107 Oldfather Hall.

### Requirements for the Major in Communication Studies

All prospective majors must consult and register with a departmental chief adviser. Majors are expected to meet regularly with their adviser. An approved program of study must be filed at the time students declare the major or within the first 12 hours of course work in the major. In order to graduate with a communication studies major, students must have an approved program of study. The minimum number of hours for a major in communication studies is 34. The 34-hour requirement must include the following:

1. Majors must complete one of the following: COMM 109, 209, 212 or 286.
2. Majors must complete both COMM 200 and 201. These courses should be completed within the first twelve hours in communication studies of a student's program.
3. Majors must complete COMM 488.
4. A minimum of 19 hours must be taken in communication studies courses at or above the 300 level, excluding COMM 286, 390 and 490.
5. Of the 19 hours, at least 7 must be at the 400 level. COMM 200 and 201 must be completed before a student can enroll in any 400-level course. COMM 490 cannot be used to meet this requirement.
6. The department encourages qualified students to enroll in internship and independent study in order to supplement classroom experiences. However, internship and independent study are not a substitute for classroom experiences. No more than 3 hours of internship or independent study may count toward the 34-credit-hour requirement in the major. Please refer to items 3 and 4 above.
7. A communication studies major must have either an approved Plan A minor or two approved Plan B minors. An approved individualized program of studies of 24 hours can also be used to meet the minor requirement. A departmental adviser must approve the minor.
8. A grade of C or above is required for all courses in the major.

**Program Assessment.** In order to assist the department in evaluating the effectiveness of its programs, majors will be required to complete a program portfolio. The undergraduate adviser will provide each major with an instruction sheet outlining the required contents of the portfolio, deadlines, and procedures.

Results of participation in this assessment activity will in no way affect a student's GPA, but could prevent or delay graduation if the program portfolio is not completed as required.

### Requirements for the Minor in Communication Studies

**Plan A.** This minor consists of a minimum of 18 hours in communication studies courses with at least 9 hours at or above the 300 level. The 18-hour requirement must include the following:

1. Plan A minors must complete either COMM 200 or 201.
2. Plan A minors must complete either COMM 109, 209, 212, or 286.
3. A minimum of 9 hours must be taken in communication studies classes at or above the 300 level excluding COMM 286, 390 and 490.
4. Of the 9 hours, at least 3 must be at the 400 level. COMM 200 or 201 must be completed before a student can enroll in any 400-level course. COMM 490 cannot be used to meet this requirement.
5. The department encourages qualified students to engage in internship and independent study in order to supplement classroom experiences. However, neither an internship nor an independent study is a substitute for classroom experiences. No more than 3 hours of internship or independent study may count toward the 18-credit-hour minor requirement.

**Plan B.** 12 hours of communication studies courses with at least 9 hours at or above the 200 level, excluding 390 or 490. A maximum of 3 hours of internship or independent study may apply to the 12-hour requirement.

**Public Relations.** An emphasis program with the cooperation of the College of Journalism and Mass Communications. Students may apply to receive an emphasis in public relations by completing specific requirements. Communication students must also minor in marketing. There is an application process and admittance to the emphasis is limited. See Communications Studies adviser for details.

**Independent Study.** Before registering for an independent study, students must consult with and gain the approval of a faculty member with whom they wish to work.

**Internships.** We encourage students to do internships that apply to the major. There are very specific requirements that must be met before an internship can be approved. Students must meet with a communication studies adviser to determine if they meet the internship requirements.

**Graduate Work.** Graduate programs leading to the master of arts and doctor of philosophy degrees are offered in the department. A *master of arts specialization in marketing, communication studies, and advertising is also offered by the department*. A detailed description of these programs appears in the *Graduate Studies Bulletin*.

## Courses of Instruction (COMM)

(ACE 2) [ES][IS] 109. **Fundamentals of Human Communication** (3 cr) Prereq: Freshman-sophomore level; juniors and seniors by permission only.

Theory and practice in communication, including discussions and practical experiences in communication process, language, self-concept, perception, interviewing, group communication, audience analysis, public speaking, feedback, and listening.

(ACE 2) [ES][IS] 109H. **Honors: Fundamentals of Human Communication** (3 cr) Prereq: Good standing in the University Honors Program or by invitation.

Theory and practice of varying human communication forms. Includes discussions and practical experiences in communication process, language, self-concept, perception, interviewing,

group communication, audience analysis, public speaking, feedback, and listening. Students conduct evaluative critiques, engage in mock interviews and maintain process journals.

(ACE 8) [ES][IS] 189H. **University Honors Seminar** (3 cr) Prereq: Admission to the University Honors Program or by invitation. *University Honors Seminar 189H is required of all students in the University Honors Program.* Topic varies.

198. **Special Topics in Communication Studies** (1-12 cr, max 12) Lec. *Topic announced prior to registration.* Topics vary.

199. **Independent Study** (1-3 cr) Prereq: Permission.

[ES] 200. **Introduction to Communication Studies** (3 cr) Introduction to theories of human communication. Theories that apply to communication across all contexts as well as theories that apply more specifically to communication in interpersonal, small group, organizational, public or instructional settings.

[IS] 201. **Introduction to Research Methods in Communication Studies** (3 cr) Introduction to the social-scientific and critical-historical research methods in communication studies. Location, interpretation, and application of extant communication research.

(ACE 7) [ES] 205. **Performance of Literature** (3 cr) Introduction to skills and theories in the performance of literature, including written analyses of the works performed and the demonstration of this analysis during performance for the class.

(ACE 2) [ES] 209. **Public Speaking** (3 cr) Prereq: Sophomore standing. Detailed practice in composition and delivery of speeches leading to effective extemporaneous speaking. Critical analysis of contemporary speeches on vital public issues.

(ACE 2) [ES][IS] 209H. **Honors: Public Speaking** (3 cr) Prereq: Good standing in the University Honors Program or by invitation. Detailed practice in composition and delivery of speeches leading to effective extemporaneous speaking. Critical analysis of contemporary speeches on vital public issues will culminate in a major research paper.

(ACE 2) [ES] 210. **Small Group Problem Solving** (3 cr) Prereq: Sophomore standing. Theory and practice of the origin, purpose, methods, and procedures in group problem solving (discussion), and the theory of small group processes.

(ACE 9) [ES][IS] 211. **Intercultural Communication** (ETHN 211) (3 cr) Exploration of culture as a dimension of all communicative activity. Communication between cultural groups in a variety of contexts, e.g. interpersonal relationships, groups, organizations, politics, and international relations.

[ES][IS] 212. **Debate** (3 cr) Prereq: Sophomore standing or permission. Principles of argumentation and debate. Practice in analysis, briefing, use of evidence, reasoning, detection of fallacies, refutation, and delivery of argument.

[ES][IS] 220. **Introduction to Public Discourse** (3 cr) Introduction to the historical and critical examination of significant persuasive efforts in American history. Emphasis on speakers and writers who engaged in advocacy of sociopolitical importance, including representatives of important social movements, demagogues, elected officials, and others who defined our rhetorical legacy.

[ES] 226. **Introduction to Broadcasting** (BRDC 226) (3 cr) Prereq: Sophomore standing and 2.0 GPA; or freshman standing, broadcasting major, and 3.0 GPA; or permission. *Required of broadcasting majors.*

Development of the American system of broadcasting and the telecommunications industry.

[ES][IS] 280. **Communication and Popular Culture** (3 cr) Introduction to communication and popular culture, e.g. television, music, film, popular literature, "self help" literature, etc., using rhetorical and critical methods of analysis to understand the communicative dimension of these cultural forms to explore the complex relationship of language, visual images, mediated communication, and cultural values.

(ACE 2) [ES] 283. **Interpersonal Communication** (3 cr) Process and effects of interpersonal communication from earliest theories and practices to contemporary interaction analysis. Understanding and appreciation—not performance—are goals.

(ACE 2) [ES][IS] 286. **Business and Professional Communication** (3 cr) Lec 3. Prereq: Sophomore standing. An introduction to a variety of communication skills to help achieve maximum effectiveness on the job: verbal and listening skills, oral presentation techniques, small group problem solving/leadership, interviewing, and organizational communication.

295. **University Speech and Debate** (1-2 cr) Prereq: Limited to members of the intercollegiate forensics squad. *Tournaments from September through April.*

Application of principles of argumentation and persuasion in intercollegiate debate, public address, and oral interpretation. Intensive research and practice.

[ES] 300. **Nonverbal Communication** (3 cr) Introduction to the concepts of nonverbal communication, including physical movement, facial expression, time, and space, gaining understanding of nonverbal communication from three perspectives: theory, research, and practical application.

[IS] 312. **Argumentation** (3 cr) Special forms of debate and public discussion. Adaptation of argument to various types of audiences. Analysis of principles of argumentation in great historical debates.

325. **Interviewing** (3 cr) Prereq: One of the following: COMM 109, 209, 283, 210, 286 or permission. Primary focus: studying and applying the principles and strategies of interviewing to practical situations; defining and discussing the applications of interviewing theory as it applies to interviewers and interviewees; and participation in interviews utilizing the strategies and techniques discussed in class including employment, counseling, informational, appraisal, complaint, reprimand, and/or persuasive.

[ES] 334. **Polls, Politics and Public Opinion** (POLS 334) (3 cr) For course description, see POLS 334.

[ES][IS] 354. **Health Communication** (3 cr) Prereq: Junior standing or permission. Overview of communication research and practice in various care contexts: client/provider interactions, provider/provider communication, communication in health care organizations, mediated messages in the marketing and promotion of health information, consumer advocacy, politics of health care.

365. **Communication and Social Identity** (3 cr) Lec 3. Introduction to the theories and concepts of intergroup communication, personal and social identity, and social categorization. Communicative processes associated with defining self and others including social comparison, prejudice and discrimination, and social conflict.

(ACE 6) [ES][IS] 370. **Family Communication** (3 cr) Prereq: COMM 109 or permission. Examination of major variables affecting communication patterns within the family unit. Emphasis directed toward the impact of technology and changes in family life-styles upon communicative practices within the family.

[ES][IS] 371. **Communication in Negotiation and Conflict Resolution** (3 cr) Introductory account of the role of conflict in relational development, focusing on the manifestation of conflict through conversation, the alternative perspectives on strategizing conflict, and the current theoretical orientations to understanding relational conflict.

(ACE 8) [ES] 375. **Theories of Persuasion** (3 cr) An upper-division course in the theories and perspectives of persuasion, including an examination of the dimensions, scope, and role of persuasion in our society. Critical analysis of persuasive messages, becoming familiar with persuasive research, and applying to practical situations.

[ES][IS] 380. **Gender and Communication** (3 cr) Introduction to theory and research in gender and communication and a survey of research on similarities and differences between male and female verbal and nonverbal communication. Emphasis on examining the relationships among gender, language, social reality, and cultural values.

**386. Organizational Communication** (3 cr) Lec 3. Introduction to the guiding theories in organizational communication field and key communication issues in contemporary organizations. Application of theories and issues through case studies.

**390. Instructional Internship** (1-6 cr, max 6) Prereq: Permission. Structured professional experience for training instructor assistants to tutor, evaluate communication activities, and do other instructional assistance for communication studies courses.

**398. Special Topics in Communication Studies** (1-12 cr, max 12) Lec. *Topic announced prior to registration.* Topic varies.

**399. Independent Study** (1-3 cr) Prereq: Permission.

**399H. Honors Course** (3 cr, max 6) Ind. Prereq: Open to candidates for degree with distinction, with high distinction, or with highest distinction in the College of Arts and Sciences.

**[IS] 400/800. Rhetorical Theory** (3 cr) Prereq: Junior standing, COMM 200 and 201, or permission. Major writers, works, and concepts involved in the rhetorical approach to the study of human communication.

**412. Directing Forensics** (3 cr) Prereq: COMM 200, 201, 212, junior/senior standing, or permission. *For students interested in teaching debate and speech activities at the secondary or collegiate level.*

Emphasis placed on the relationship between theory in speech communication and practice in the debate and speech contest situation.

**427/827. Instructional Communication** (TEAC 429/829) (3 cr) Prereq: Junior/senior standing; College of Education and Human Sciences major; COMM 200, 201; or permission.

Advanced introductory course in instructional communication, focusing on understanding variables associated with the communication process in instructional settings and managing instructional communication more effectively. Provides an experimental and a cognitive understanding of the role of communication in the instructional process.

**[IS] 430/830. Political Communication** (POLS 430/830) (3 cr) Prereq: Junior standing; COMM 200, 201; or political science major or minor; or permission. For course description, see POLS 430/830.

**[IS] 452/852. Communication and Culture** (3 cr) Prereq: Junior standing; COMM 200 and 201; or permission. Theories of communication and culture as the basis for investigation of human communication in a variety of cultural contexts and activities.

**[IS] 470/870. Interpersonal Communication Theory** (3 cr) Prereq: Junior standing; COMM 200 and 201; or permission. Central concerns of interpersonal communication theory and research and to the various approaches to issues in the interpersonal communication context.

**485/885. Small Group Communication Theory** (3 cr) Prereq: Junior standing; COMM 200, 201 and 210; or permission. Conceptual territory of small group communication via review of the small group communication literature. Develop an integrative picture of small groups.

**[IS] 486. Communicating Organizational Culture and Power** (3 cr) Lec 3. Prereq: COMM 200, 201, and 386. Critical and cultural theories, principles, and research related to organizational communication. Organizations as sites of culture and power.

**487. Global Organizational Communication** (3 cr) Lec 3. Prereq: COMM 200, 201, and 386. Communication processes and issues that arise in global organizations and in an era marked by globalization. Relationships among culture, communication, and ways of organizing in a variety of organizations.

**488. Senior Workshop and Assessment** (1 cr) Prereq: Senior standing; (24 hrs communications studies); communications studies major. *Pass/No Pass only.*

Integrate theory and skills learned in a communication studies major with a focus on scholarly trends and career opportunities.

**490/890. Internship in Communication Studies** (1-6 cr, max 6) Prereq: Junior standing and 12 to 15 hrs communication studies courses. *Prerequisites waived for instructor assistants for COMM PSI courses.*

Structured professional experience in the field of communication studies outside of the traditional academic setting. Communication problems are confronted not as abstractions, but as specific occurrences with which the student must cope.

**498. Special Topics in Communication Studies** (1-12 cr, max 12) Lec. Prereq: Junior standing; COMM 200 and 201. *Topic announced prior to registration.*

Topic varies.

**499H. Honors Course** (1-3 cr, max 6) Ind. Prereq: Open to candidates for degree with distinction, with high distinction, or with highest distinction in the College of Arts and Sciences.

**850. Seminar in Gender and Communication** (3 cr) Prereq: COMM 200 and 201, or permission.

**859. Human Communication Theory** (3 cr) Prereq: Permission.

**880. Critical and Interpretive Research** (3 cr) Prereq: Junior standing; COMM 200 and 201; or permission.

**882. Experimental Research** (3 cr) Prereq: Junior standing; COMM 200 and 201; or permission.

**899. Masters Thesis** (6-10 cr)

Refer to the Graduate Bulletin for 900-level courses.

## Community and Regional Planning

### (Minor Only)

**Coordinator:** Arts and Sciences Advising Center, 107 Oldfather Hall

**Departmental Contact:** Professor Gordon Scholz, 302 Architecture Hall

Community and regional planning is an interdisciplinary field that influences a broad range of future-oriented decision making. A minor in community and regional planning will be useful for students who wish to pursue careers related to planning or who wish to pursue graduate study in community and regional planning.

Majors in the College of Arts and Sciences that are related to planning include anthropology, economics, environmental studies, ethnic studies, geography, geology, Great Plains studies, political science, and sociology, among others. Many professional positions in public, private, and nonprofit organizations involve knowledge and skills in community and regional planning.

UNL offers the master of community and regional planning (MCRP) degree program, which prepares students for professional planning practice. The MCRP degree program is described in the Graduate Studies Bulletin and in the College of Architecture section of the Undergraduate Bulletin. Completion of CRPL 400 in the minor fulfills the course content requirement of CRPL 800 for the MCRP degree; however, 48 credit hours still must be completed at the graduate level for the MCRP degree.

**Pass/No Pass.** Not allowed for the required planning course (CRPL 400).

## Requirements for the Minor in Community and Regional Planning

The minor in community and regional planning requires 18 credit hours. Two foundation courses, one each from Group A and Group B, are required. These courses fulfill two of the three course prerequisites for the MCRP degree program. The remaining 12 credit hours of the minor, including one required course (CRPL 400), are completed in community and regional planning.

### Foundation Courses (6 cr required)

At least three credit hours from Group A and at least three credit hours from Group B are required for the minor.

#### Group A

##### Economics

ECON 210. Intro to Economics (5 cr)  
ECON 211. Principles of Macroeconomics (3 cr)  
ECON 212. Principles of Microeconomics (3 cr)  
ECON 311. Intermediate Macroeconomics (3 cr)  
ECON 312. Intermediate Microeconomics (3 cr)  
ECON 340. Intro to Urban-Regional Economics (3 cr)

ECON 440. Regional Development (3 cr)

##### Agricultural Economics

AECN 141. Intro to the Economics of Agriculture (3 cr)

##### Geography:

GEOG 120. Introductory Economic Geography (3 cr)

#### Group B

##### Agricultural Economics

AECN 276. Rural Sociology (SOCI 241) (3 cr)

##### Anthropology

ANTH 130. Anthropology of the Great Plains (3 cr)  
ANTH 212. Intro to Cultural Anthropology (ETHN 212) (3 cr)  
ANTH 412. Social Structure (3 cr)  
ANTH 416. Topics in Cultural Anthropology (3 cr) *(topics as appropriate)*

ANTH 473. Ecological Anthropology (3 cr)

ANTH 474. Applied & Development Anthropology (3 cr)

##### Geography

GEOG 140. Introductory Human Geography (3 cr)  
GEOG 361. Urban Geography (3 cr)  
GEOG 406. Spatial & Environmental Influences in Social Systems (3 cr)

##### Great Plains Studies

GPSP 170. Intro to Great Plains Studies (ANTH/GEOG/NRES/SOCI 170) (3 cr)

##### Sociology

SOCI 101. Intro to Sociology (3 cr)  
SOCI 201. Social Problems (3 cr)  
SOCI 205. Intro to Social Research I (3 cr)  
SOCI 217. Nationality & Race Relations (ETHN 217) (3 cr)  
SOCI 241. Rural Sociology (AECN 276) (3 cr)  
SOCI 242. Urban Sociology (3 cr)  
SOCI 415. Social Change (3 cr)  
SOCI 441. Social Psychology (3 cr)  
SOCI 444. Social Demography (3 cr)  
SOCI 446. Environmental Sociology (3 cr)  
SOCI 450. Social Institutions (3 cr)  
SOCI 480. Social Inequality: Stratification & Life Chances (3 cr)

SOCI 481. Minority Groups (ETHN 481) (3 cr)  
 SOCI 491. Political Sociology (3 cr)

#### Planning Courses (12 cr min required)

##### Required Course (3 cr)

CRPL 400. Intro to Planning (3 cr)

##### Supporting Courses (9 cr min)

CRPL 300. The Community & the Future (3 cr)  
 CRPL 420. Grant Writing & Fundraising (3 cr)  
 CRPL 431. Computer Graphics Applications in Physical & Environmental Planning (3 cr)  
 CRPL 450. Social Planning & Policy (3 cr)  
 CRPL 460. Planning & Design in the Built Environment (3 cr)  
 CRPL 470. Environmental Planning & Policy (3 cr)  
 CRPL 475. Water Quality Strategy (AGRO/CIVE/GEOL/MSYM/POLS 475) (3 cr)  
 CRPL 477. Recreation & Park Planning (3 cr)  
 CRPL 480. Economic Development Planning (3 cr)  
 CRPL 481. Planning in Developing Countries (3 cr)  
 CRPL 495. Selected Topics in Community & Regional Planning (3-9 cr)  
 CRPL 496. Special Problems in Community & Regional Planning (3 cr)

- knowledge of human behaviors, organizations, histories, and cultures including the arts and humanities;
- abilities to integrate broad knowledge in the intellectual pursuits that are the hallmarks of an educated person—writing, speaking, and critical thinking; and
- understanding of ethical, organizational, and societal demands of the computer science professional and abilities to meet these demands over a professional lifetime.

The CSE Department also offers a degree of bachelor of science in computer engineering through the College of Engineering. (See “Department of Computer Science and Engineering” on page 302.) All students majoring in the CSE Department should see their advisers during their first semester to make sure they understand the differences in the requirements of the two programs. Majors must consult with their advisers each semester for registration advising.

**Graduate Programs.** The CSE Department offers several graduate degree programs: master of science in computer science, master of science with computer engineering specialization, master of science in computer science with bioinformatics specialization, doctor of philosophy in computer science, doctor of philosophy in engineering with computer engineering specialization, doctor of philosophy in computer science with bioinformatics specialization, and a doctor of philosophy in information technology. See the Graduate Studies Bulletin for details.

**Pass/No Pass..** Departmental permission to take major or minor courses for Pass/No Pass credit must be obtained. Request forms are available in the Arts and Sciences Advising Center, 107 Oldfather Hall.

## Requirements for the Major in Computer Science

The computer science program requires 44 hours of computer science, 16 hours of mathematics, 12 hours of science, and a Plan A minor designed to allow the student to identify with some academic area outside computer science. With the inclusion of MATH 208, the Plan A minor requirement can be met for mathematics. See your adviser for more information.

Students who wish to take a cohesive block of courses that crosses departmental or even college lines should consider the Individualized Program of Studies minor offered by the College or a business minor offered by the College of Business Administration.

The 44 hours (at least 13 of which must be at the 400 level for students not completing the J. S. Raikes School of Computer Science and Management) of computer science include Core Courses, Depth Courses, Technical Electives, and a Senior Design experience as detailed below:

### Computer Science Core (22-25 hours)

- Regular Core Courses Block: CSCE 155, 156, 230, 230L, 235, 251, 310, 322, and 361, or

- Alternative J. S. Raikes School of Computer Science and Management Core Courses Block: RAIK 183H, 184H, 283H, 284H, 383H, CSCE 251, 322

#### Depth Courses (6 hours)

- CSCE 351 or CSCE 451, and
- CSCE 423 or CSCE 428

#### Technical Electives (9-12 hours)

- Any CSCE/RAIK 300- or 400-level course except the following:
  - CSCE 390 or 490, and
  - RAIK courses lacking CSCE equivalents (RAIK 301H, 302H, 384H, 401H and 402H are acceptable as technical electives)
- Up to 3 hours of CSCE 491 can be used for technical electives, and an additional 3 hours can be used toward the 125 hours required for the degree.
- At most one of MATH 428, 432, 433, 439, 450, 452

#### Senior Design Experience (4 hours)

- CSCE 486 and 487 taken in consecutive semesters, or
- RAIK 381H and/or 382H and 402H

Students completing the Jeffrey S. Raikes School of Computer Science and Management automatically satisfy the Technical Electives and Senior Design Experience requirements and only need CSCE 251, 322, and the 6 hours of Depth Courses to satisfy the computer science requirements.

The 16 hours of mathematics are MATH 106, 107, 314, and STAT 380. Joint mathematics and computer science majors who take any two 400-level MATH courses that are listed in the Technical Electives for Computer Science may apply one of those courses toward both majors.

The 12 hours of science must be in courses intended for science/engineering majors and must include at least two laboratories in a single science discipline. The CSE Department has identified the following five disciplines with their acceptable courses:

**Chemistry:** CHEM 109, 110, 221 (or 113, 114, 116)

**Physics and Astronomy:** PHYS 211, 221, 212, 222, 213, 223, ASTR 204, 224

**Biological Sciences:** BIOS 102, 103, 109, 111, 112, 112L, 205, 206, 207

**Geological Sciences:** GEOL 101, 103H, 210, 212, METR 200, 255, 351

**Anthropology:** ANTH 242, 242L

**NOTE:** Bold face type indicates a lab course or that a lab is included with the course.

Students may petition for substitutions. Substitution forms are available at the department office.

**Program Assessment.** In order to assist the department in evaluating the effectiveness of its programs, majors will be required in their senior year to complete a written exit survey.

Results of participation in these assessment activities will in no way affect a student's GPA or graduation.

## Focus

A computer science major has the option of declaring a Focus in one of the areas listed below. Students who, in addition to meeting all computer science requirements listed above, receive a grade of C or better in each of three courses from one area below will receive a notice from the Department of Computer Science and Engineering stating that they received the degree bachelor of science in computer science with a Focus in their chosen area.

The Focus areas are as follows:

Informatics: CSCE 410, 413, 464, 470, 471, 472, 473, 474

Artificial Intelligence: CSCE 475, 476, 478, 479

Computer and Networking Systems: CSCE 421, 430, 432, 434, 435, 455, 456, 462

Foundations: CSCE 340, 421, 423, 424, 428, 477

In addition, up to 3 hours of CSCE 498 Computer Problems (undergraduate research) can be used in any focus area. Some offerings of CSCE 496 Special Topics may be substituted in an appropriate area. See your adviser for more details.

A Focus is in addition to all major requirements. Thus no course used by a student to fulfill a major requirement can be applied to a Focus.

Customized Focus Areas are also possible. The department chair, in consultation with relevant faculty members and the undergraduate adviser, may approve a customized Focus Area proposed by a student. See your adviser for more information.

To declare a Focus, see your adviser.

## Requirements for the Minor in Computer Science

For students not enrolled in the J. S. Raikes School of Computer Science and Management:

- 18 hours of computer science courses, including CSCE 155 and 156 and at least 3 hours of CSCE courses at the 300 level or above. A student completing the J. S. Raikes School of Computer Science and Management curriculum automatically receives a computer science minor.

## Courses of Instruction (CSCE)

CSCE 155 is the first course for students majoring or minoring in computer science or computer engineering and for students in other fields who plan to take additional CSCE courses. CSCE 150E is for students majoring in other science or engineering disciplines who do not plan to take additional CSCE courses. CSCE 150A is for students seeking a general introductory course and/or preparation for CSCE 155. CSCE 156 is for advanced students with experience in object-oriented design and programming. CSCE 101 and 101L are for students seeking a broad introduction to computing (which meets the General Education requirement for a laboratory course in Science and Technology) with only brief instruction in computer programming.

**Computer Science Placement Policy.** The required Computer Science and Engineering Placement Exam (CSEPE) is used to assess students' background in problem solving, computer programming, and relevant mathematics. Results of the CSEPE recommend placement in CSCE 150A, CSCE 155, or CSCE 156. Students who have not taken a recognized UNL or transfer prerequisite course with a grade of C or better must take the CSEPE.

**[ES] 101. Basics of Computing** (3 cr) Lec 3. *Intended for non-CSCE majors who desire a deeper understanding of computers and the work of computer scientists. CSCE 101 is a course in the science of computation and is suitable for non-CSCE majors and prospective CSCE majors.*

Introduction to the breadth of computer science. Hardware, software, networks, theory, and social issues.

**[ES] 101L. Fundamentals of Computing Laboratory** (1 cr) Lab 3.

Prereq: CSCE 101 or parallel. *Will not count towards the requirements for a major or minor in computer science and computer engineering.* A variety of computer oriented exercises using many software tools is presented which supplement and are coordinated with the topics taught in CSCE 101. Students are exposed to programming, operating systems, simulation software, spreadsheets, database software, the Internet, etc. Applications software introduced in the context of tools to explore the computer science topics and as alternatives to traditional programming languages. Emphasis on learning by experiment, with a goal of developing problem solving skills. A major component is the study of a programming language—the choice of which may vary by course section.

**[ES] 150A. Introduction to Problem Solving with Computers** (3 cr) Lec 3. Prereq: Four years high school mathematics. *CSCE 150A is designed to develop skills in programming and problem solving to prepare for CSCE 155. CSCE 150A, CSCE 150E, and CSCE 150M do not count toward the requirements for the major in computer science and computer engineering. Credit toward the degree may be earned in only one of: CSCE 150A or CSCE 150E or CSCE 150M or CSCE 252A.*

Problem solving with a computer and programming fundamentals using a popular high-level language. Logic and functions that apply to computer science; elementary programming constructs, type, and algorithmic techniques.

**[ES] 150E. Introduction to Computer Programming for Scientists and Engineers** (3 cr) Lec 3, lab 1. Prereq: 4 years high school mathematics. *CSCE 150E is designed for computer applications in the sciences and engineering. CSCE 150A, CSCE 150E, and CSCE 150M do not count toward the requirements for the major in computer science and computer engineering. Credit towards the degree may be earned in only one of: CSCE 150A or CSCE 150E or CSCE 150M or CSCE 252A.*

Introduction to computers and problem-solving with computers for applications in the sciences and engineering. Problem analysis and specification, algorithms, programming in a high-level language, and data representation and processing.

**[ES] 150M. Multimedia Approach to Computing** (3 cr) Lec 3. Prereq: Four years high school mathematics. CSCE 150M is designed to develop skills in programming, problem solving, and multimedia applications. *CSCE 150A, CSCE 150E, and CSCE 150M do not count toward the requirements for the major in computer science or the major in computer engineering. Credit towards the degree may be earned in only one of: CSCE 150A or CSCE 150E or CSCE 150M or CSCE 252A.*

Computer-based problem solving and programming fundamentals using a popular high-level programming language and the creation and manipulation of media including audio, video, and images. Algorithms, data structures, control structures, information encoding, and object-oriented programming.

**(ACE 3) [ES] 155. Computer Science I** (4 cr) Lec 3, lab 2. Prereq: Appropriate score on the CSE Placement Exam or a grade of "Pass" or "C" or better in CSCE 150A or 150E or 150M; MATH 103.

Introduction to problem-solving with computers. Object-oriented problem analysis and specification, algorithm development, program design, implementation, testing, and debugging. Event-driven programming, inheritance, polymorphism, data abstraction, encapsulation, documentation, recursion, exception handling, and graphical user interface design.

**(ACE 3) [ES] 155H. Honors: Computer Science I** (4 cr) Lec 3, lab 2. Prereq: Good standing in the University Honors Program or by invitation; appropriate score on the CSE Placement Exam or a grade of "Pass" or "C" or better in CSCE 150A or 150E or 150M; MATH 103. *CSCE 155H covers the same topics as CSCE 155, but in greater depth.*

For course description, see CSCE 155.

**(ACE 3) [ES] 156. Computer Science II** (4 cr) Lec 3, lab 2. Prereq: Appropriate score on the CSE Placement Exam or a grade of "P" or "C" or better in CSCE 155 or 155H; MATH 103 or equivalent. *Laboratories supplement the lecture material and give an opportunity to practice concepts.*

Different programming languages, the use of data structures, implementation of a three-tier application. Basic programming language paradigms, memory management, pointers and references, declarations and types, and abstract mechanisms; using, implementing, and introduction to analysis of basic data structures. Linked-lists, stacks, queues and trees; searching and sorting; databases, table design, SQL queries, and use in applications.

**(ACE 3) [ES] 156H. Honors: Computer Science II** (4 cr) Lec 3, lab 2. Prereq: Good standing in the University Honors Program or by invitation; appropriate score on the CSE Placement Exam or a grade of "P" or "C" or better in CSCE 155 or 155H; MATH 103 or equivalent. *CSCE 156H covers the same topics as CSCE 156, but in greater depth. Laboratories supplement the lecture material and give an opportunity to practice concepts.*

For course description, see CSCE 156.

**(ACE 3) [ES] 183H. Honors: Computer Problem Solving Essentials** (RAIK 183H) (4 cr) Lec 3, rct 1. Prereq: Good standing in the University Honors Program; admission to the Jeffrey S. Raikes School of Computer Science and Management. *CSCE/RAIK 183 is the first course in the Jeffrey S. Raikes School of Computer Science and Management core. CSCE/RAIK 183 has programming laboratory activities.*

Introduction to problem solving with computers. Problem analysis and specification, algorithm development, program design, and implementation. JAVA in a Windows platform.

**[ES] 184H. Honors: Software Development Essentials** (RAIK 184H) (4 cr) Lec 4. Prereq: Good standing in the University Honors Program; admission to the Jeffrey S. Raikes School of Computer Science and Management; and CSCE/RAIK 183H. *CSCE/RAIK 184H is the second course in the Jeffrey S. Raikes School of Computer Science and Management core.*

Problem solving with computers. Problem analysis and specification, data structures, relational databases, algorithm development, and program design and implementation. Discrete mathematics topics, propositional and predicate logic, sets, relations, functions, and proof techniques. C++, SQL, Windows, Standard Template Library, and Software Development Principles.

**190. Special Topics in Computer Science** (1-3 cr, max 6) Prereq: Permission. *CSCE 190 will not count towards a major or minor in computer science and computer engineering.*

Aspects of computers and computing at the freshman level for non-computer science and computer engineering majors and/or minors. Topics will vary.

**196. Special Topics in Computer Science** (1-3 cr, max 6) Prereq: Permission.

Aspects of computers and computing for computer science and computer engineering majors and minors. Topics vary.

**[ES][IS] 230. Computer Organization** (3 cr) Lec 3, rct 1. Prereq: Grade of "P" or "C" or better in CSCE 101 or 105 or 150 or 155 155H, or detailed knowledge of a high-level programming language; parallel CSCE 230L.

Introduction to organization and structure of computer systems. Boolean Logic, Digital Arithmetic, Processor Organization, Machine Language Programming, Input/Output, Memory Organization, System Support Software, and Communication.

**[ES][IS] 230H. Honors: Computer Organization** (3 cr) Lec 4. Prereq: Good standing in the University Honors Program or by invitation; grade of "P" or "C" or better in CSCE 101 or 105 or 150 or 155 or 155H, or detailed knowledge of a high-level programming language; parallel CSCE 230L. *CSCE 230H covers the same topics as CSCE 230, but in greater depth.*

For course description, see CSCE 230.

**[ES] 230L. Computer Organization Laboratory** (1 cr) Lab 2. Prereq: Grade of "P" or "C" or better in CSCE 101 or 105 or 150 or 155 155H, or detailed knowledge of a high-level programming language; parallel CSCE 230 or 230H. *CSCE 230L includes a*

**project designing and implementing a processor.**

Computer-aided tools to provide practice and reinforcement of concepts and techniques learned in CSCE 230 or 230H. Assembler programming and arithmetic and logic function design.

**[ES] 235. Introduction to Discrete Structures** (3 cr) Lec 3, rct 1. Prereq: Grade of "Pass" or "C" or better in CSCE 155/155H; MATH 106/108H or equivalent. *Theoretical concepts with programming assignments.*

Survey of elementary discrete mathematics. Elementary graph and tree theories, set theory, relations and functions, propositional and predicate logic, methods of proof, induction, recurrence relations, principles of counting, elementary combinatorics, and asymptotic notations.

**251. Unix Programming Environment** (1 cr) Lec 1, lab 1.

Prereq: Familiarity with at least one high-level programming language.

Introduction to the Unix operating system. Unix file system. Unix tools and utilities. Shell programming.

**251K. C Programming** (1 cr) Lab 1. Prereq: Familiarity with one high-level programming language. *Required of computer science and engineering majors who do not know C, but who have knowledge of another high-level language.*

Introduction to the C programming language.

**252A. FORTRAN Programming** (1 cr) Lec 1. Prereq: Familiarity with one high-level programming language. *Credit towards the degree maybe earned in only one of: CSCE 150A or CSCE 150E or CSCE 150M or CSCE 252A.*

Principles and practice of FORTRAN programming.

**[ES] 283H. Honors: Foundations of Computer Science** (RAIK 283H) (3 cr) Lec 3. Prereq: Good standing in the University Honors Program; admission to the Jeffrey S. Raikes School of Computer Science and Management; and CSCE/RAIK 184H. *CSCE/RAIK 283H is the third course in the Jeffrey S. Raikes School of Computer Science and Management core.*

Advanced data structures and algorithms that solve common problems and standard approaches to solving new problems. Analysis and comparison of algorithms, asymptotic notation and proofs of correctness. Discrete mathematics. Induction and principles of counting and combinatorics as foundation for analysis.

**[ES] 284H. Honors: Foundations of Computer Systems** (RAIK 284H) (4 cr) Lec 4, rct 1. Prereq: Good standing in the University Honors Program; admission to the Jeffrey S. Raikes School of Computer Science and Management; and CSCE/RAIK 283H. *Fourth course in the Jeffrey S. Raikes School of Computer Science and Management core.*

Introduction to fundamental organization and structure of computer systems. Boolean logic, data representation, processor organization, input/output, memory organization, system support software and communication.

**290. Special Topics in Computer Science** (1-3 cr, max 6) Prereq: Permission. *CSCE 290 will not count towards a major or minor in computer science and computer engineering.*

Aspects of computers and computing for non-computer science and computer engineering majors and/or minors. Topics vary.

**296. Special Topics in Computer Science** (1-3 cr, max 6) Prereq: Permission.

Aspects of computers and computing for computer science and computer engineering majors and minors. Topics vary.

**301H. Honors: RAIK Design Studio I** (RAIK, BSAD 301H) (3 cr) Lec 3, lab. Prereq: Good standing in the University Honors Program or by invitation; admission to the Jeffrey S. Raikes School of Computer Science and Management; BSAD/RAIK 282H; and CSCE/RAIK 284H. *First semester of Jeffrey S. Raikes School of Computer Science and Management design studio sequence.*

For course description, see RAIK 301H.

**302H. Honors: RAIK Design Studio II** (RAIK, BSAD 302H) (3 cr) Lec 3, lab. Prereq: Good standing in the University Honors Program or by invitation; admission to the Jeffrey S. Raikes School of Computer Science and Management; and BSAD/CSCE/RAIK 301H. *Second semester in the Jeffrey S. Raikes School of Computer Science and Management design studio sequence.*

For course description, see RAIK 302H.

**[IS] 310. Data Structures and Algorithms** (3 cr) Lec 3, rct 1. Prereq: Grade of "Pass" or "C" or better in CSCE 156/156H and 235. *Theoretical concepts with programming assignments.*

Algorithm analysis, asymptotic notation, and solving recurrence

relations. Basic data structures (linked-lists, stacks, queues). Advanced data structures and their associated algorithms, heaps, priority queues, hash tables, trees, binary search trees, and graphs. Advanced sorting algorithms, and algorithmic techniques, randomization, divide and conquer, greedy algorithms, dynamic programming, and distributed algorithms. Introduction to computability and NP-completeness.

**322. Programming Language Concepts** (3 cr) Lec 3. Prereq: Grade of "Pass" or "C" or better in CSCE 156/156H and 230.

List-processing, string-processing, and other types of high-level programming languages. Fundamental concepts of data types, control structures, operations, and programming environments of various programming languages. Analysis, formal specification, and comparison of language features.

**335. Digital Logic Design** (ELEC 370) (3 cr) Prereq: ELEC 121 or CSCE 230.

For course description, see ELEC 370.

**340/840. Numerical Analysis I** (MATH 340/840) (3 cr) Lec 3. Prereq: Grade of "Pass" or "C" or better in CSCE 150E or 155/155H; MATH 208/208H. *Credit toward the degree may be earned in only one of the following: CSCE/MATH 340/840 and ENGM 480/880.*

Algorithm formulation for the practical solution of problems, interpolation, roots of equations, differentiation, and integration. Effects of finite precision.

**351. Operating System Kernels** (3 cr) Lec 2, lab 2. Prereq: Grade of "Pass" or "C" or better in CSCE 230/230H, 230L, and 310. *Lab content reinforces concepts through practice.*

Design and implementation of operating system kernels. Bootstrapping and system initialization, process context switching, I/O hardware and software, DMA, I/O polling, interrupt handlers, device drivers, clock management. Substantial programming implementing or extending an instructional operating system kernel.

**[IS] 361. Software Engineering** (3 cr) Lec 3. Prereq: Grade of "Pass" or "C" or better in CSCE 310. *CSCE 361 requires participation in a group design and implementation of a software project.*

Techniques used in the disciplined development of large software projects. Software requirements analysis and specifications, program design, coding and integration testing, and software maintenance. Software estimation techniques, design tools, and complexity metrics.

**[IS] 378. Human-Computer Interaction** (3 cr) Lec 3. Prereq: CSCE 156. STAT 380 recommended.

Knowledge and techniques useful in the design of computing systems for human use. Includes models of HCI, human information processing characteristics important in HCI, computer system features, such as input and output devices, dialogue techniques, and information presentation, task analysis, prototyping and the iterative design cycle, user interface implementation, interface evaluation.

**383H. Honors: Fundamentals of Software Engineering** (RAIK 383H) (3 cr) Lec 3. Prereq: Good standing in the University Honors Program; admission to the Jeffrey S. Raikes School of Computer Science and Management; CSCE/RAIK 284H. *Fifth course in the Jeffrey S. Raikes School of Computer Science and Management core.*

Proper principles and methods of engineering software. Requirements, design, implementation, management and software evolution.

**384H. Honors: Applied Numerical Analysis** (RAIK 384H) (3 cr) Lec 3. Prereq: Good standing in the University Honors Program; admission to the Jeffrey S. Raikes School of Computer Science and Management; and CSCE/RAIK 284H; parallel BSAD/RAIK 382H. *Sixth course in the Jeffrey S. Raikes School of Computer Science and Management core.*

Application of established numerical analysis techniques to selected business and finance problems, finite difference applied to standard options or stochastic processes in modeling financial markets.

**390. Special Topics in Computer Science** (1-3 cr, max 6) Prereq: Permission. *CSCE 390 will not count towards a major or minor in computer science and computer engineering.*

Aspects of computers and computing for non-computer science and computer engineering majors and/or minors. Topics vary.

**396. Special Topics in Computer Science** (1-3 cr, max 6) Prereq: Permission.

Aspects of computers and computing for computer science and computer engineering majors and minors. Topics vary.

**399H. Honors Thesis** (3 cr) Prereq: Open to students in the honors program and to candidates for degrees with distinction, with high distinction, and with highest distinction.

**[IS] 401H. Honors: RAIK Design Studio III** (RAIK, BSAD 401H) (3 cr) Lec 3, lab. Prereq: Good standing in the University Honors Program or by invitation; admission to the Jeffrey S. Raikes School of Computer Science and Management; and BSAD/CSCE/RAIK 302H. *Third semester in the Jeffrey S. Raikes School of Computer Science and Management design studio sequence.*

For course description, see RAIK 401H.

**(ACE 10) [IS] 402H. Honors: RAIK Design Studio IV** (RAIK, BSAD 402H) (3 cr) Lec 3, lab. Prereq: Good standing in the University Honors Program or by invitation; admission to the Jeffrey S. Raikes School of Computer Science and Management; and BSAD/CSCE/RAIK 401H. *Fourth semester in the Jeffrey S. Raikes School of Computer Science and Management design studio sequence.*

For course description, see RAIK 402H.

**410/810. Information Retrieval Systems** (3 cr) Lec 3. Prereq: CSCE 235, 310, or permission.

Outline of the general information retrieval problem, functional overview of information retrieval. Deterministic models of information retrieval systems; conventional Boolean, fuzzy set theory, p-norm, and vector space models. Probabilistic models. Text analysis and automatic indexing. Automatic query formulation. System-user adaptation and learning mechanisms. Intelligent information retrieval. Retrieval evaluation. Review of new theories and future directions. Practical experience with a working experimental information retrieval system.

**413/813. Database Systems** (3 cr) Lec 3. Prereq: CSCE 310. *CSCE 413/813 involves practical experience with a working database system.* Data and storage models for database systems; entity/relationship, relational, and constraint models; relational databases; relational algebra and calculus; structured query language; logical database design: normalization, integrity; distributed data storage; concurrency; security issues. Spatial databases and geographic information systems.

**421/821. Foundations of Constraint Processing** (3 cr) Lec 3.

Prereq: CSCE 310 and 476/876.

Constraint processing for articulating and solving industrial problems such as design, scheduling, and resource allocation. The foundations of constraint satisfaction, its basic mechanisms (e.g., search, backtracking, and consistency-checking algorithms), and constraint programming languages. New directions in the field, such as strategies for decomposition and for symmetry identification.

**[IS] 423/823. Design and Analysis of Algorithms** (3 cr) Prereq: CSCE 310.

Mathematical preliminaries. Strategies for algorithm design, including divide-and-conquer, greedy, dynamic programming and backtracking. Mathematical analysis of algorithms. Introduction to NP-Completeness theory, including the classes P and NP, polynomial transformations and NP-complete problems.

**424/824. Computational Complexity Theory** (3 cr) Lec 3. Prereq: CSCE 235 and 310.

Turing machine model of computation: deterministic, nondeterministic, alternating, probabilistic. Complexity classes: Time and space bounded, deterministic, nondeterministic, probabilistic. Reductions and completeness. Complexity of counting problems. Non-uniformity. Lower bounds. Interactive proofs.

**425/825. Compiler Construction** (3 cr) Lec 3. Prereq: CSCE 310.

Review of program language structures, translation, loading, execution, and storage allocation. Compilation of simple expressions and statements. Organization of a compiler including compile-time and run-time symbol tables, lexical scan, syntax scan, object code generation, error diagnostics, object code optimization techniques, and overall design.

**428/828. Automata, Computation, and Formal Languages** (3 cr) Lec 3. Prereq: CSCE 310.

Introduction to the classical theory of computer science. Finite state automata and regular languages, minimization of automata. Context free languages and pushdown automata, Turing machines and other models of computation, undecidable problems, introduction to computational complexity.

**430/830. Computer Architecture** (3 cr) Lec 3. Prereq: CSCE 230 and 310; parallel STAT/MATH 380 or ELEC 305. *Credit in CSCE 830 will not count towards a graduate degree in computer science.*

Architecture of single-processor (Von Neumann or SISD) computer systems. Evolution, design, implementation, and evaluation of state-of-the-art systems. Memory Systems, including

interleaving, hierarchies, virtual memory and cache implementations; Communications and I/O, including bus architectures, arbitration, I/O processors and DMA channels; and Central Processor Architectures, including RISC and Stack machines, high-speed arithmetic, fetch/execute overlap, and parallelism in a single-processor system.

**432/832. High-Performance Processor Architectures** (3 cr) Lec 3. Prereq: CSCE 430; MATH 314; MATH/STAT 380 or ELEC 410. *CSCE 432 assumes knowledge of computer architecture, pipelining, memory hierarchy, instruction level parallelism, and compiler principles.*

High performance computing at the processor level. The underlying principles and micro-architectures of contemporary high-performance processors and systems. State-of-the-art architectural approaches to exploiting instruction level parallelism for performance enhancements. Case studies of actual systems highlight real-world trade-offs and theories.

**434/834. VLSI Design** (3 cr) Lec 3. Prereq: CSCE 335 or permission.

Introduction to VLSI design using metal-oxide semiconductor (MOS) devices primarily aimed at computer science majors with little or no background in the physics or circuitry of such devices. Includes design of nMOS and CMOS logic, data-path, control unit, and highly concurrent systems as well as topics in design automation.

**435/835. Cluster and Grid Computing** (3 cr) Lec 3. Prereq: CSCE 310 or equivalent programming experience. *CSCE 435/835 is designed for CSCE and non-CSCE students who have an interest in building or programming clusters to enhance their computationally-intense research.*

Build and program clusters. Cluster construction, cluster administration, cluster programming, and grid computing.

**437/837. File and Storage Systems** (3 cr) Lec 3. Prereq: CSCE 351 or 451/851; CSCE 430/830. *CSCE 437/837 requires the designing and implementation of a real-life file and storage system.*

System-level and device-level topics in the design, implementation, and use of file and storage systems. Components and organization of storage systems, disk drive hardware and firmware, multi-disk systems, RAIDs, local distributed and P2P file systems, and low-power designs.

**441/841. Approximation of Functions** (MATH 441/841) (3 cr) Lec 3. Prereq: A programming language, MATH 221 and 314. Polynomial interpolation, uniform approximation, orthogonal polynomials, least-first-power approximation, polynomial and spline interpolation, approximation and interpolation by rational functions.

**447/847. Numerical Analysis II** (MATH 447/847) (3 cr) Lec 3. Prereq: CSCE 340, MATH 221 and 314.

Numerical matrix methods and numerical solutions of ordinary differential equations.

**451/851. Operating Systems Principles** (3 cr) Lec 3. Prereq: CSCE 230 and 310. *Credit will not count towards a graduate degree in computer science and computer engineering.*

Organization and structure of operating systems. Control, communication, and synchronization of concurrent processes. Processor and job scheduling. Memory organization and management including paging, segmentation, and virtual memory. Resource management. Deadlock avoidance, detection, recovery. File system concepts and structure. Protection and security. Substantial programming.

**455/855. Distributed Operating Systems** (3 cr) Lec 3. Prereq: CSCE 451/851. *CSCE 455/855 requires a substantial programming project in distributed systems.*

Organization and structure of distributed operating systems. Control, communication and synchronization of concurrent processes in the context of distributed systems. Processor allocation and scheduling. Deadlock avoidance, detection, recovery in distributed systems. Fault tolerance. Distributed file system concepts and structure.

**456/856. Parallel Programming** (3 cr) Lec 3. Prereq: CSCE 310 or equivalent programming experience.

Introduction to the fundamentals of parallel computation and applied algorithm design. Methods and models of modern parallel computation; general techniques for designing efficient parallel algorithms for distributed and shared memory multi-processor machines; principles and practice in programming an existing parallel machine.

**457/857. System Administration** (3 cr) Lec 3. Prereq: CSCE 310 or equivalent programming experience. Introduction to basic concepts of system administration. Operating systems and networking overview. User and resource management. Networking, systems and Internet related security. System services and common applications, Web services, database services, and mail servers. Basic scripting in shell, *Perl*<sup>®</sup>, and *Expect*<sup>®</sup> Systems administration on UNIX<sup>®</sup> platform.

**462/862. Communication Networks** (3 cr) Lec 3. Prereq: CSCE 230 and 310; STAT/MATH 380 or STAT 880.

Introduction to the architecture of communication networks and the rudiments of performance modeling. Circuit switching, packet switching, hybrid switching, protocols, local and metro area networks, wide area networks and the Internet, elements of performance modeling, and network programming. Network security, asynchronous transfer mode (ATM), optical, wireless, cellular, and satellite networks, and their performance studies.

**464/864. Internet Systems and Programming** (3 cr) Lec 3.

Prereq: CSCE 310.

Paradigms, systems, and languages for Internet applications. Client-side and server-side programming, object-based and event-based distributed programming, and multi-tier applications. Coverage of specific technologies varies.

**467/867. Software Quality** (3 cr) Lec 3. Prereq: CSCE 310 or permission.

Initial and ongoing software analysis, including metrics, requirements, correctness, performance, testing and validation. Frameworks and methods for software quality. Benchmarks and testing, processes for quality assurance, performance and quality models, software quality tools, testable designs and automated testing.

**470/870. Computer Graphics** (3 cr) Lec 3. Prereq: CSCE 310 and MATH 314/814.

Display and recording devices; incremental plotters; point, vector, and character generation; grey scale displays, digitizers and scanners, digital image storage; interactive and passive graphics; pattern recognition; data structures and graphics software; the mathematics of three dimensions; homogeneous coordinates; projections and the hidden-line problem.

**471/871. Introduction to Bioinformatics** (3 cr) Lec 3. Prereq: CSCE 310; STAT/MATH 380 or STAT 880.

Fundamentals and trends in bioinformatics. Scoring matrices and pairwise sequence alignments via dynamic programming, BLAST, and other heuristics. Multiple sequence alignments. Applications of machine learning methods such as hidden Markov models and support vector machines to biological problems such as family modeling and phylogeny.

**472/872. Digital Image Processing** (3 cr) Lec 3. Prereq: CSCE 156 or permission.

Digital imaging systems, digital image processing, and low-level computer vision. Data structures, algorithms, and system analysis and modeling. Digital image formation and presentation, image statistics and descriptions, operations and transforms, and system simulation. Applications include system design, restoration and enhancement, reconstruction and geometric manipulation, compression, and low-level analysis for computer vision.

**473/873. Computer Vision** (3 cr) Lec 3. Prereq: CSCE 156 or permission.

High-level processing for image understanding and high-level vision. Data structures, algorithms, and modeling. Low-level representation, basic pattern-recognition and image-analysis techniques, segmentation, color, texture and motion analysis, and representation of 2-D and 3-D shape. Applications for content-based image retrieval, digital libraries, and interpretation of satellite imagery.

**474/874. Introduction to Data Mining** (3 cr) Lec 3. Prereq:

CSCE 310; STAT/MATH 380 or STAT 880. *CSCE 474/874 requires the completion of a project involving the application of data mining techniques to real-world problems.*

Data mining and knowledge discovery methods and their application to real-world problems. Algorithmic and systems issues. Statistical foundations, association discovery, classification, prediction, clustering, spatial data mining and advanced techniques.

**[IS] 475/875. Multiagent Systems** (3 cr) Lec 3. Prereq: CSCE 310.

Distributed problem solving and planning, search algorithms for agents, distributed rational decision making, learning multiagent systems, computational organization theory, formal methods in Distributed Artificial Intelligence, multiagent negotiations, emergent behaviors (such as ants and worms), and Robocup technologies and real-time coalition formation.

**[IS] 476/876. Introduction to Artificial Intelligence** (3 cr) Lec 3. Prereq: CSCE 310.

Introduction to basic principles, techniques, and tools now being used in the area of machine intelligence. Languages for AI programming introduced with emphasis on LISP. Lecture topics include problem solving, search, game playing, knowledge representation, expert systems, and applications.

**477/877. Cryptography and Computer Security** (3 cr) Lec 3.

Prereq: CSCE 310, MATH 314/814 or equivalent.

Introductory course on cryptography and computer security. Topics: classical cryptography (substitution, Vigenere, Hill and permutation ciphers, and the one-time pad); Block ciphers and stream ciphers; The Data Encryption Standard; Public-key cryptography, including RSA and El-Gamal systems; Signature schemes, including the Digital Signature Standard; Key exchange, key management and identification protocols.

**[IS] 478/878. Introduction to Machine Learning** (3 cr) Lec 3.

Prereq: CSCE 310. STAT 380 recommended.

Introduction to the fundamentals and current trends in machine learning. Possible applications for game playing, text categorization, speech recognition, automatic system control, data mining, computational biology, and robotics. Theoretical and empirical analyses of decision trees, artificial neural networks, Bayesian classifiers, genetic algorithms, instance-based classifiers and reinforcement learning.

**479/879. Introduction to Neural Networks** (3 cr) Lec 3.

Introduction to the concepts, design and application of connection-based computing begins by simulating neural networks, focusing on competing alternative network architectures, including sparse distributed memories, Hopfield networks, and the multilayered feed-forward systems. Construction and improvement of algorithms used for training of neural networks addressed to reduce training time and improve generalization. Algorithms for training and synthesizing effective networks implemented in high level language programs running on conventional computers. Emphasis on methods for synthesizing and simplifying network architectures for improved generalization. Application areas include: pattern recognition, computer vision, robotics medical diagnosis, weather and economic forecasting.

**486. Computer Science Professional Development** (1 cr) Lec 1. Prereq: CSCE 361. *CSCE 486 must be taken exactly one semester before CSCE 487.*

Preparation for the senior design project. Professional practice through familiarity with current tools, resources, and technologies. Professional standards, practices and ethics, and the oral and written report styles used specifically in the field of computer science.

**(ACE 10) [IS] 487. Computer Science Design Project** (3 cr) Lec 3. Prereq: Senior standing; CSCE 361 and 486. *CSCE 487 uses the team approach to undertake a substantial, broadly-defined project requiring aggregation of the technical and analytical skills learned in other CSCE courses.*

**488. Computer Engineering Professional Development** (2 cr)

Lec 2. Prereq: JGEN 200; ELEC 362 and 476, or parallel; CSCE 430/830 or parallel; formal admission to College of Engineering. *CSCE 488 is a preparation course for the computer engineering Senior Design Project (CSCE 489). CSCE 488 and 489 are a sequence of courses that are to be taken in consecutive terms.*

Professional practice through familiarity and practice with current tools, resources, and technologies; professional standards, practices, and ethics; and oral and written report styles used in the computer engineering field.

**(ACE 10) [IS] 489. Computer Engineering Senior Design Project** (3 cr) Lec 3. Prereq: ELEC 362 and 475/875; CSCE 430/830 and 488; admission to the College of Engineering. *CSCE 488 must be taken first and in the term prior to registering for CSCE 489. Permission must be obtained to take CSCE 488 and 489 out of sequence. CSCE 489 uses a team approach.*

Undertake a substantial design project requiring aggregation of the technical and analytical skills learned in other CSCE courses.

**490. Special Topics in Computer Science** (1-3 cr, max 6) Prereq: Permission. *CSCE 490 will not count towards a major or minor in computer science and computer engineering.*

Aspects of computers and computing for non-computer science and computer engineering majors and/or minors. Topics vary.

**491. Internship in Computing Practice** (1-3 cr, max 6) Fld.

Prereq: CSCE 310 and permission. *CSCE 491 requires a detailed project proposal and final report.*

Experiential learning in conjunction with an approved industrial or government agency under the joint supervision of an outside sponsor and a faculty adviser.

**496/896. Special Topics in Computer Science** (1-3 cr per sem, max 6) Lec. Prereq: Senior or graduate standing. Aspects of computers and computing not covered elsewhere in the curriculum presented as the need arises.

**496H. Honors: Special Topics in Computer Science** (3 cr) Prereq: Good standing in the University Honors Program or by invitation; specific course prerequisites will vary depending on the topic.

**498/898. Computer Problems** (3 cr) Prereq: Senior or graduate standing.

Independent project executed under the guidance of a member of the faculty of the Department of Computer Science. Solution and documentation of a computer problem demanding a thorough knowledge of either the numerical or nonnumerical aspects of computer science.

**897. Masters Project** (1-6 cr) Prereq: Permission of the adviser.

**899. Masters Thesis** (6-10 cr)

Refer to the Graduate Bulletin for 900-level courses.

## Conflict and Conflict Resolution Studies

(Minor only)

**Chair and Chief Adviser:** Fran Kaye

**Faculty:** Cahan (philosophy), Demers (anthropology and geography), Dienstbier (psychology), Hames (anthropology/geography), Leger (psychology), Maslowski (history), Potter (philosophy)

This program is concerned with violent conflict between social groups—the biological, ecological, economic, social, and political basis of such conflict and its relationship to religion, philosophy, and the arts. It examines the history of efforts to resolve or prevent violent conflicts through such means as armaments, negotiations, diplomacy, international law, and nonviolent resistance to violence.

### Requirements for the Minor in Conflict and Conflict Resolution Studies

The core course in conflict and conflict resolution (cross-listed as ANTH, POLS, PSYC and SOCI 261) is required. In addition, students must take one course from six of the following seven groups:

#### I. Evolution, Human Biology and Warfare

ANTH 353. Anthropology of War  
BIOS 203. Bioethics  
BIOS/PSYC 373. Biopsychology

#### II. The Social Unit, Aggression and Violence

COMM 371. Communication in Negotiation & Conflict Resolution  
HIST 303/803. United States Military History 1607-1917  
HIST 304/804. United States Military History Since 1917  
PSYC 401. Psychology & Law  
SOCI 201. Social Problems  
SOCI 415/815. Social Change  
SOCI 491/891. Political Sociology

#### III. International Society

HIST 347. History of United States Foreign Relations to 1909  
HIST 348. History of United States Foreign Relations since 1909  
POLS 160. International Relations  
POLS 468/868. Organizing World Order  
POLS 469/869. International Law

#### IV. History of Warfare and its Impact on States and Within States

AERO 441-442. National Security Forces in Contemporary American Society  
HIST 338/838. War & Peace in Europe: 1914 to Present  
NAVS 321. Evolution of Warfare  
SOCI 217. Nationality & Race Relations

#### V. Science and Technology: Arms and Arms Control

NAVS 321. Evolution of Warfare  
POLS 398. Arms Racing & Arms Control

#### VI. Economics and Resource Economics and the Origins of Modern Aggression

AECN 346. World Food Economics  
ECON 423/823. Economics of the Less Developed Countries  
POLS 459/859. International Political Economy

#### VII. Human Cultural Responses to War and its Alternatives

ENGL 210. Themes in Literature  
PHIL 220. Elements of Ethics

Substitutions in this program may be made if such substitution can be justified on vocational or intellectual grounds.

A senior seminar will complete the program of 24 hours. Courses that are part of a student's major may be used to satisfy the requirements for a conflict resolution minor.

## Economics

**Chair:** Scott M. Fuess, Jr., 340 College of Business Administration Building

**Professors:** Anderson, Cushing, Edwards, Fuess, Hayden, MacPhee, Rosenbaum, Schmidt, van den Berg, Walstad

**Associate Professors:** Allgood, Kim, May, McGarvey, Thompson

**Assistant Professors:** Butters, Giertz

**Assistant Professor of Practice:** Asarta

**NOTE FOR ECONOMICS MAJORS:** Completion of ECON 311 and 312 is recommended before taking other 300- and 400-level courses.

Economic analysis is useful in many decisions made by individuals, businesses, nonprofit organizations, and governments. In addition to opportunities in teaching, economists are employed in many branches of government and on the staffs of corporations in manufacturing, insurance, banking, brokerage and other financial services. Economists often serve as consultants, either individually or in consulting firms. Today's economists deal with problems ranging from monetary and fiscal policy, monopoly and competition, environmental improvement, regional development, urban reconstruction, labor relations,

economic development and international business and finance. Economics is also a popular major for students planning to enter professional and graduate programs, particularly in law, foreign service, labor relations, or business administration.

The Department of Economics offers the opportunity for intensive study in 11 specialized economic areas: economic theory, comparative economic and regional development, econometrics, economic education, economic history, industrial organization and regulation, international trade and finance, institutional economics, labor economics, monetary economics, and public finance. The course offerings in these areas are described on the following pages.

For some career objectives, study in related areas is advisable. For example, a student planning a career in the foreign service would benefit most from courses in international economics. A prospective corporate lawyer might take courses in industrial organization or public finance. Someone planning to get an MBA should take intermediate microeconomics and macroeconomics. A future urban planner would benefit from a course in regional development. In planning a program of studies, students should consult a faculty advisor or talk to any member of the economics faculty who would be glad to make suggestions about complementary courses.

**Order of Studies.** Students who plan to take only one year of economics are advised to take ECON 211 and 212, or ECON 210 and a 300-level course in economics. These courses would satisfy the 6 hr. Essential Studies requirement. Either ECON 211 and 212 or ECON 210 are prerequisite to most of the courses in the department. Students who major in economics will find it advantageous to take ECON 211 and 212 in their sophomore year.

**Graduate Work.** The advanced degrees of master of arts and doctor of philosophy are offered. For details of these programs see the Graduate Studies Bulletin.

**Prerequisite.** For all courses in the 300 series, junior standing and ECON 210 or 211 are required with the exception of ECON 375, which has no prerequisite. ECON 211 and 212 are required for 311, 312, 340, 364, 388, and 389. For all courses in the 400 series, except 466 and 467, junior standing and 12 hours in the social sciences including ECON 211 and 212 are required as prerequisites. ECON 210 may be substituted for ECON 211 and 212. Additional prerequisites may be in effect for some courses. See individual course listings.

**Pass/No Pass.** Any student in any college at UNL may not take business courses in the College of Business Administration using a Pass/No Pass option, unless otherwise stated.

### Requirements for the Major in Economics

An economics major must complete 30 credit hours of economics. These 30 hours must include:

	Hours
ECON 211 Principles of Macroeconomics.....	3
ECON 212 Principles of Microeconomics.....	3
ECON 215 Statistics*.....	3
ECON 311 Intermediate Macroeconomics .....	3

ECON 312 Intermediate Microeconomics .....	3
Economics 300- or 400-level courses.....	6
Economics 400-level courses .....	9
<b>Total 30</b>	

**\*NOTE for economics majors:** STAT 218 may be substituted for ECON 215 if STAT 218 was completed before declaring economics as a major; otherwise student must take ECON 215.

Completion of ECON 311 and 312 is recommended before taking other 300- and 400-level courses.

## Requirements for the Minor in Economics

**Plan A:** 18 hours

**Plan B:** 12 hours

This department participates in the program for International Studies. For a full description of the program, see "International Studies" on page 187.

## Courses of Instruction (ECON)

### General Economics and Theory

[ES] 210. **Introduction to Economics** (5 cr) Prereq: Sophomore standing and above. Recommended for students outside the College of Business Administration but not for economics majors in the College of Arts and Sciences. *Students taking ECON 210 cannot earn credit for ECON 211 and 212.*

Principles which govern the organization and behavior of modern economic systems. Includes the nature of economics and economic systems; national income, inflation and unemployment measurement and determination; money, monetary and fiscal policy; economic growth; the allocation of economic resources; the behavior of consumers and producers in markets; the distribution of income; and the international economy.

(ACE 6, 8) [ES] 211. **Principles of Macroeconomics** (3 cr) Prereq: Sophomore standing or above. **Required** for students in the College of Business Administration and for economics majors in the College of Arts and Sciences, or permission. *Students taking ECON 211 and/or 212 may not earn credit for ECON 210.*

Introduction to the nature and methods of economics. Includes economic systems, measurement and analysis of aggregate variables, such as national income, consumption, saving, investment, international payments, employment, price indices, money supply, and interest rates. Fiscal, monetary, and other policies for macroeconomic stabilization and growth evaluated.

(ACE 6, 8) [ES] 212. **Principles of Microeconomics** (3 cr) Prereq: Sophomore standing. **Required** for College of Business Administration major and for Arts and Sciences economics major. *Credit towards degree cannot be earned in both ECON 210 and in ECON 211 and/or 212.*

Continuation of introduction to economic methods with emphasis on analysis and evaluation of markets. Includes demand, supply, elasticity, production costs, consumption utility, monopoly, competition, monopolistic competition, oligopoly, allocative and technical efficiency, and income distribution. Analysis is applied to resource markets, unions, antitrust laws, agriculture, international trade, and to other economic problems and policies.

**311. Intermediate Macroeconomics** (3 cr) Prereq: ECON 211 and 212; ECON 215 or equivalent; MATH 104 or equivalent. Extensions and elaboration of theories of aggregate production, consumption, savings and investment, and international trade and finance. Detailed analyses of aggregate demand and supply and applications to inflation and unemployment. Various models of a market economy's performance, and analyses of monetary and fiscal policies for macroeconomic stabilization and growth.

**312. Intermediate Microeconomics** (3 cr) Prereq: ECON 211 and 212; ECON 215 or equivalent; MATH 104 or equivalent. Extension and elaboration of the economic theories of the behavior of producers, consumers, and markets. Applications include analyses of taxation, rationing and other government policies, price discrimination, cartels, unions, and international markets.

**389. Current Economic Issues** (3 cr) Prereq: ECON 210 or both 211 and 212; for juniors only. Critical analysis of economic issues based upon readings of current and historical importance. (Possible topics: pollution, discrimination, poverty, energy, agribusiness, health, demographics, ideology, and crime.)

**413/813. Social Insurance** (3 cr)

Nature and causes of economic insecurity. Analysis of public programs such as Social Security, unemployment insurance, workers' compensation, and public assistance.

**433/833. History of Economic Thought** (3 cr)

Development and evolution of economic ideas, including diverse mainstream and dissenting schools of thought from ancient Greece to contemporary texts. Consideration of selected influential economists' writings, relation between economic conditions and ideas and the antecedents of current economic controversies.

**873. Microeconomic Models and Applications** (AECN \*873) (3 cr)

Prereq: ECON 211, 212, and 215. *This course is intended for MA Option II students and others who do not plan to proceed to PhD studies.*

**874. Macroeconomic Models and Applications** (3 cr) Prereq: ECON 211, 212 and 215. *This course is intended for MA Option II students and others who do not plan to proceed to PhD studies.*

Refer to the Graduate Bulletin for 900-level courses.

### Comparative International and Regional Development

**322. Introduction to Development Economics** (3 cr) Prereq: ECON 210 or 211.

Survey of economic problems of developing countries and of appropriate policies to foster economic progress. Roles of education, research, innovation, saving, and capital formation in the growth process.

**323. The Economic Development of Latin America** (3 cr) Prereq: ECON 210 or 211.

Economics of Latin America, with emphasis on current economic problems. How past development contributed to the present economic situation. Detailed analysis of the economies and recent economic policies using standard microeconomic and macroeconomic models.

**340. Introduction to Urban-Regional Economics** (3 cr) Prereq: ECON 210 or both 211 and 212.

Analysis of reasons for the existence, size, location, and evolution of cities. Analysis of the location of economic activity; differences in regional growth patterns, downtown revitalization, slums, congestion, and state economic development.

[IS] **388. Comparative Economic Systems** (3 cr) Prereq: ECON 210, or both 211 and 212.

Intermediate survey of modern economic systems. Analysis of differences in underlying ideologies, institutions, policies, and performance among the US, Soviet Union, Western and Eastern Europe, Japan and China.

**423/823. Economics of the Less Developed Countries** (3 cr)

Prereq: ECON 210 or both 211 and 212.

Advanced survey of development problems and goals; roles of land, labor, capital, entrepreneurship, and technical progress in economic growth of the less developed countries. Theories and strategies relating to international trade and economic development.

**440/840. Regional Development** (3 cr) Prereq: ECON 210, or both 211 and 212.

Advanced analysis of regional growth and development. Emphasis placed on the relationship between national and regional growth as well as local attributes influencing development patterns. Comparisons between developed and developing countries used to highlight similarities and differences in development patterns and policies. Empirical applicability of regional economic models stressed.

**442/842. Regional Analysis** (3 cr) Prereq: ECON 440/840.

Advanced study of techniques for regional analysis. Includes indexes of spatial dispersion and concentration, shift-share analysis, export base, and input-output analysis. Special emphasis given to input-output analysis. Objective is to equip students with the basic analytical tools of regional economic analysis.

**466/866. Pro-seminar in International Relations I** (AEVN \*467; ANTH, HIST 479/879; GEOG 448/848; POLS, SOCI 466/866) (3 cr) Prereq: Senior standing and permission. *Open to students with an interest in international relations.* For course description, see POLS 466/866.

**467/867. Pro-seminar in International Relations II** (POLS 467/867) (3 cr) Prereq: Senior standing and permission. *Open to students with an interest in international relations.* For course description, see POLS 467/867.

**487/887. Economies in Transition** (3 cr) Prereq: ECON 210, or both 211 and 212. Evolution of formally centrally planned economies (Soviet Union, central and eastern Europe, China) toward more market-oriented and decentralized economies. Includes comparisons of the speed and pattern of institutional changes, performance outcomes and implications for economic development strategies.

Refer to the Graduate Bulletin for 900-level courses.

### Econometrics

**417/817. Introductory Econometrics** (3 cr) Prereq: ECON 210, or 211 and 212; ECON 215 or equivalent.

Designed to give undergraduate and master's level economics students an introduction to basic econometric methods including economic model estimation and analyses of economic data. Hypothesis formulation and testing, economic prediction and problems in analyzing economic cross-section and time series data considered.

Refer to the Graduate Bulletin for 900-level courses.

Also see courses in Quantitative Economics.

### Economic Education

**450/850. Economics for Teachers** (2-6 cr)

Structure and function of the economic system and problems in achieving goals of efficient allocation of resources, full employment, stable prices, economic growth, and security. Emphasis on teaching of economics at the pre-college level.

**451/851 [451ss/851ss]. Economics Issues for Teachers** (1-6 cr, max 6)

Application of economic principles to current problems. Includes evaluation of economic education materials, scope and sequence for development of economic concepts in the primary and secondary school.

**852. Teaching College Economics and Business** (3 cr)

**853. Economics of Education** (3 cr)

**854. Economic Education Research** (3 cr)

Refer to the Graduate Bulletin for 900-level courses.

### Economic History

**[ES] 375. Women and Work in US History** (HIST, WMNS 375) (3 cr)

Transformation of women's role in the US economy from colonial times to the present and the effects of class, race, and changing perceptions of women's role in society. Role of women in household manufacture, the early factory system, the trade union movement, the Great Depression, the home front of WWII, and the economic emergence of women in the postwar economy.

**[IS] 457/857. 19th Century United States Economic History** (HIST 457/857) (3 cr) Prereq: ECON 211 and 212, or ECON 210. Transformation of the United States economy from an agrarian to an industrial society and the impact of that transformation on people's lives and livelihoods. The economics of slavery, the impact of the railroads, immigration, and the collective response of business and labor to industrialization.

**[IS] 458/858. 20th Century United States Economic History** (HIST 458/858) (3 cr) Lec 3. Prereq: ECON 211 and 212, or ECON 210.

Transformation of the United States economy in the twentieth century. Attention to the continued consolidation of the

business enterprise, business cycle episodes including the Great Depression of the 1930s, organized labor, and the role of government in managing and coping with this transformation in economic life.

Refer to the Graduate Bulletin for 900-level courses.

## Industrial Organization and Regulation

**426/826. Government Intervention in Markets** (3 cr) Prereq: ECON 212.

Traces the economic and legal incentives for government involvement in the marketplace. Examines why various forms of intervention make sense in certain situations. Defining the limits of allowable competition, and to replacing free market forces with regulation. Includes analysis of utilities and their evolving regulation.

**[IS] 435/835. Market Competition** (3 cr) Prereq: ECON 212. Examination of differing schools of thought about how well a market economy performs. Includes economic analysis and extensive reviews of rivalry among corporations in various sectors of the US economy.

Refer to the Graduate Bulletin for 900-level courses.

Also see the following economics courses:

ECON 457/857. US Economic History  
 ECON 458/858. US Economic History  
 ECON 472/872. Efficiency in Government  
 ECON 487/887. Economies in Transition  
 ECON 900. Seminar in Economic Theory & Policy

## Institutional Economics

**475/875. Theory and Analysis of Institutional Economics** (3 cr)

Survey of the basic ideas of Veblen, Polanyi, Commons, Ayres, Galbraith, and Myrdal. Applications of institutional analysis to major economic problems and policies. Examination of the economic system as part of the holistic human culture, a complex of many evolving institutions.

## International Trade and Finance

**(ACE 9) 321. Introduction to International Economics** (3 cr) Prereq: ECON 210 or both 211 and 212.

Intermediate survey of international trade and factor movements; balance of payments; commercial policy; economic integration; international monetary system and institutions; exchange rates; and open economy macroeconomics.

**421/821. International Trade** (3 cr) Prereq: ECON 210, or both 211 and 212; ECON 312.

Determinants of the volume, prices, and commodity composition of trade. Effects of trade, international resource movements, trade restrictions on resource allocation, income distribution, and social welfare.

**422/822. International Finance** (3 cr) Prereq: ECON 210 or both 211 and 212.

Determinants of exchange rates, international payments, inflation, unemployment, national income, and interest rates in an open economy. International monetary system and capital and financial markets, and of the mechanisms by which a national economy and the rest of the world adjust to external disturbances.

For additional international courses, see Comparative International and Regional Development.

## Labor Economics

**381. Introduction to Labor Economics** (3 cr) Prereq: ECON 210 or 211.

History and development of the American labor movement; trends and issues in collective bargaining; economic implications of labor unions.

**481/881. Economics of the Labor Market** (3 cr) Prereq: ECON 210 or 211 and 212.

Microeconomics of wages and employment; determinants of labor demand and supply; marginal productivity; bargaining theories of wages; labor mobility and allocation among employers; and the impact of unions, government policy, investment in human capital; and discrimination in labor markets.

**482/882. Labor in the National Economy** (3 cr) Prereq: ECON 210 or 211 and 212.

Macroeconomics aspects of labor economics; how the labor sector of the economy and the economy's overall performance are interrelated; analysis of the general level of wages, employment, unemployment, business cycles, and inflation.

**485/885. Government and Labor** (MNGT 466/866) (3 cr) Prereq: MNGT 361 or ECON 381.

For course description, see MNGT 466/866.

Refer to the Graduate Bulletin for 900-level courses.

## Monetary Economics

**303. An Introduction to Money and Banking** (3 cr) Prereq: ECON 210 both 211 and 212.

Understanding of the nature of money, the commercial and central banking system, and the role of money and monetary policy as determinants of the aggregate levels of national spending and income, output, employment, and prices.

**365. Financial Institutions and Markets** (FINA 365) (3 cr) Prereq: ECON 210 or 211, ACCT 201.

Various institutions which collectively constitute the US financial system and a discussion of their origin and development. Analysis of the supply and demand for funds and characteristics of the main financial markets. Emphasis placed on the determination of the price of credit and the term structure of interest rates.

**403/803. Money and the Financial System** (3 cr) Prereq: ECON 210, or 211 and 212.

Basic policy implications of monetary economics with special reference to the role of money in the determination of income, employment, and prices. Includes demand for and supply of money, commercial and central banking system, monetary policy-making, nonbank financial system, and other issues in monetary economics.

**404/804. Current Issues in Monetary Economics** (3 cr) Prereq: ECON 210, or 211 and 212.

Money as developed by classical and modern economists. Emphasis on origins of money, interest rates, inflation, unemployment, business cycles, rational expectations, fiscal policy, international aspects of monetary policy, and other related topics in monetary economics.

Refer to the Graduate Bulletin for 900-level courses.

## Public Finance

**371. Elements of Public Finance** (3 cr) Prereq: ECON 210 or 211. For non-majors.

Economic analysis of current issues in public finance including government policy regarding both expenditure programs and taxation. Federal, state, and local government issues covered, emphasizing tax policy. Stresses applications of basic economic theory which provide insight on policy issues.

**471/871. Public Finance** (3 cr) Prereq: ECON 210 or 211 and 212.

Microeconomic analysis of policy issues in public finance, emphasizing taxation. Includes public goods and externalities; analysis of tax incidence; efficiency, equity, and (c) fiscal federalism.

**472/872. Efficiency in Government** (3 cr) Prereq: ECON 210 or 211 and 212.

Prepares students to conduct social and economic planning, program evaluation, and budgeting. Analysis of the delivery of government goods and services consistent with values and societal goals. Includes: philosophy of government, budget theory, social indicators, social fabric matrix, cost effective analysis, technology assessment, evaluation of the natural environment, and time analysis.

Refer to the Graduate Bulletin for 900-level courses.

## Quantitative Economics

**(ACE 3) [ES] 215. Statistics** (3 cr) Prereq: Sophomore standing; MATH 104/104H or 106/108H; BSAD 150; 2.5 GPA. Credit toward the degree in the College of Business Administration cannot be earned in both ECON 215, and STAT 218 or EDPS 459 or CRIM 300; or in both ECON 215 and SOCI 206. Credit toward the degree in the College of Arts and Sciences cannot be earned in both ECON 215 and STAT 218, or in both EDPS 459 and STAT 218.

Introduction to the collection, analysis, and interpretation of statistical data used in economics and business. Probability analysis, sampling, hypothesis testing, analysis of trends and seasonality, correlation, and simple regressions.

**[IS] 409/809. Applied Public Policy Analysis** (3 cr) Prereq: ECON 210, or 211 and 212; ECON 215 or equivalent.

Experience with research methods in economics. Use of statistical analysis to investigate economic issues and related policies; find relevant data; perform and interpret univariate and multivariate statistical analyses; and formulate and test specific hypotheses.

**416/816. Statistics for Decision Making** (3 cr) Prereq: ECON 215.

Decision making under conditions of uncertainty. Introduction to Bayesian methods including the main methods of traditional statistics. Both prior knowledge and consequences of decision error explicitly taken into account in the analysis.

**419/819. Topics in Applied Research** (3 cr) Prereq: ECON 416/816.

Selected topics involving the use of quantitative methods in applied research.

**815. Analytical Methods in Economics and Business** (AECN 815) (3 cr) Prereq: MATH 104 or 106.

Refer to the Graduate Bulletin for 900-level courses.

Also see Econometrics area for additional courses in quantitative economics.

## Research and Thesis

Seminar and research courses in specific fields are listed in their respective divisions.

**[IS] 189H. University Honors Seminar** (3 cr) Prereq: Good standing in the University Honors Program or by invitation.

*University Honors Seminar 189H is required of all students in the University Honors Program.*

Topic varies.

**198. Freshman Seminar** (3 cr) Prereq: Permission.

Topics vary each term.

**399. Independent Study** (1-3 cr) Prereq: Prior arrangement with and permission of individual faculty member and completion of proposed plan to departmental office.

Special research project or reading program under the direction of a staff member in the department.

**399H. Honors Independent Study** (3-6 cr) Prereq: Admission to the University Honors Program or by invitation, and permission.

Special research project or reading program.

**499H. Honors Thesis** (3-6 cr) Prereq: Admission to the University Honors Program or by invitation, and permission.

Conduct a scholarly research project and write a University Honors Program thesis.

Refer to the Graduate Bulletin for 900-level courses.

## English

**Chair:** Joy Ritchie, 204A Andrews Hall

**Vice Chair:** Deborah Minter

**Chief Adviser:** Fran Kaye

**Advising Center Staff:** Jan Jarvis

**Professors:** Agee, Bauer, Behrendt, Belasco, Brooke, Buhler, Couture, DiBernard, Dixon, Foster, Gallagher, Garelick, Goodburn, Harkness, Honey, Kaye, Kooser, Kuzma, Pratt, Price, Raz, Reynolds, Ritchie, Shapiro, Slater, Stock

**Associate Professors:** Castro, Condon, Dreher, Ford, Gregory, Homestead, Lynch, Minter, Montes, Nissé, Stenberg, White

**Assistant Professors:** Abel, Gannon, Oakley, Ramsay, Rutledge, Schleck, Vigil

The Department of English seeks to provide for the diverse needs of its students by offering them the opportunity to read widely, to understand and enjoy what they read, and to express themselves both orally and in writing with ease, force and clarity. Through the practice of writing and the study of language, literature and film, the department strives to stimulate humanistic learning and the capacity to respond rationally and imaginatively to literature and the life it reflects.

The undergraduate major in English is designed for three groups: 1) those who seek a general education; 2) those who plan to teach in the elementary and secondary schools; and 3) those who plan to pursue graduate study in the field. The major is also frequently chosen as preparation for professional study in law, medicine, and business, and for careers in other fields. Students who major in English also often major in a career-oriented subject.

## Requirements for the Major in English

- 36 hours distributed at the following levels:

	Hours
200 level or above.....	15
300 level or above.....	15
400 level .....	6

The major also requires a minimum number of these 36 hours in different areas or courses:

	Hours
A. English 200 .....	3
B. Linguistics, writing, and/or rhetoric (254, 322A, 322B, 354, or 376 .....	3
C. Literary or rhetorical theory (270, 275, 373, 471, 475, 475A, or 478 .....	3
D. Historical Literature Core	
British Literature (230A*, 305A, 330E*, 362, 363, 364, or 365).....	3
Literature Before 1800 (230A*, 330E*, 362, 363, or 364) .....	3
American Literature (361A or 361B) .....	3
E. Literature in the Context of Culture, Ethnicity, and/or Gender (212, 215E, 215J, 239B, 244, 244B, 244E, 245B, 245D, 245J, 315A, 315B) .....	3
F. Capstone Course (487).....	3
G. Concentration .....	12

*\*Only one of these courses may count for the historical literature core.*

**Concentrations.** There are four suggested concentrations available in English: Literary and Cultural Studies; Creative Writing; Film Studies; Writing; Rhetoric and Culture. In addition, students have the option of developing a special field concentration in consultation with the Chief Adviser and appropriate faculty.

**Literary and Cultural Studies** focuses on the analysis of texts, including works of fiction, drama, and poetry, as well as the various media of popular culture. Students select four literary and/or literary criticism courses, **three** of which must be above the 299 level. Students are encouraged to create a focused strand of interest organized around a controlling theme or topic consulting with the English Undergraduate Advising Office (123 Andrews) early in their program.

- 3 hours may be introductory 200-level courses
- 9 hours of advanced courses, 300 and 400 level

**Creative Writing** is intended for students who wish to explore their abilities in imaginative writing, principally in the areas of poetry, prose fiction, and non-fiction prose. Students in this concentration also study published literary work in the various literary genres. Typically, students complete one or more introductory 200-level courses in creative writing (which do not count toward the concentration) and then proceed to the more advanced courses listed below.

- 6 hours of advanced courses in creative writing: ENGL 352, 353, 452, 452A, 453, 459
- 6 hours of courses in modern and contemporary literature: ENGL 302A, 303, 403, 405E, 414B

**Film Studies** includes analysis of moving images that begins with the dawn of motion picture history in the late nineteenth century and extends to films from contemporary cinema. Films are the primary texts, but they are supplemented by written materials that provide historical context, analysis, and examples of film criticism.

- 3 hours of the introductory level course: ENGL 213E
- 6 hours of mid-level to advanced courses: ENGL 219, 239, 239B, 259A, 269, 349, 373
- 3 hours of an advanced film course: ENGL 413, 439, 459

**Writing, Rhetoric, and Culture** focuses on extended practice in writing for many purposes and audiences, including academic, professional, personal, and community contexts. The concentration helps students explore how individuals use writing and rhetoric to act in the world and attend to relationships between language, literacy, power, identity, and culture.

- 6-12 hours of core courses: ENGL 254, 258B, 275, 354, 357, 376, 377, 454, 457A, 475, 482
- 0-6 hours of elective/supplemental courses: ENGL 210I, 212, 220, 283, 315B, 322B, 373, 427, 459, 478

**Field Concentration.** Students may design their own concentration with the permission of the chief adviser and appropriate faculty. Such concentrations may include courses from literary and cultural studies, creative writing, film studies, and writing, rhetoric, and culture. In some cases, a interdisciplinary field concentration may include a course from another department. Students select four courses, **three** of which must be above the 299 level. Students are encouraged to create a focused strand of interest organized around a controlling theme or topic consulting with the English Undergraduate Advising Office (123 Andrews) early in their program.

- 3 hours may be introductory 200-level courses
- 9 hours of advanced courses, 300 and 400 level

No more than 6 Pass/No Pass hours can count for the English major. No course can count for more than one requirement in areas A through F. Up to two classes taken for requirements A through F may count toward the concentration (area G). No course which includes fewer than three authors can be used to satisfy area requirements except one course in

Chaucer or Shakespeare or Milton. One advanced-level literature course in another language may count for the major, with the chief adviser's permission. No more than 6 hours of Independent Directed Reading (including internships) will count for the major. Neither independent study taken at the 400 level nor an internship will count for the 400-level requirement for the major. Students taking 6 hours of ENGL 399H may count for the major no more than 3 additional hours of Independent Directed Reading. No more than 3 hours of internship (ENGL 495) will count for the English major. A student may receive credit for a course bearing the same course number and letter more than once with the prior permission of the chief adviser.

A student declaring an English major will meet with the chief adviser to establish a tentative rationale and plan for the major. Thereafter the student must meet with the chief adviser at least once a year to update the major plan, to review progress toward the degree, to plan a concentration, and to consult about course selection, scholarships, and careers or post-graduate education. The department Advising Center (123 Andrews Hall) will offer written information about these matters and others of interest to majors.

English majors are required to complete one Plan A minor or two Plan B minors or a second major.

**Program Assessment.** In order to assist the department in evaluating the effectiveness of its programs, majors will be required from time to time to complete written exit surveys and to compile portfolios of selected written work in major courses.

## Requirements for the Major in English for Students in the College of Education and Human Sciences

- Consult the College of Education and Human Sciences section of this bulletin.

## Requirements for the Minor in English

**Plan A.** 18 hrs of English above the 100 level; 9 hrs must be above 299; of these 9 hrs, 3 hrs must be above 399.

**Plan B.** 12 hrs of English beyond the 100 level; 6 hrs above 299.

No more than 3 hours of Pass/No Pass may count for a minor in English.

**Graduate Work.** The advanced degrees of master of arts and doctor of philosophy are offered. For details see the *Graduate Studies Bulletin*.

**Special Programs.** The Department of English houses the major in Film Studies and participates in the major in Women's and Gender Studies; in the minors in African American Studies, Chicano Studies, Ethnic Studies, Native American Studies, Judaic Studies, Medieval and Renaissance Studies, and Religious Studies; and in the University Studies Program.

**Pass/No Pass.** A student may apply up to 6 hours of Pass/No Pass credit toward a major in English without securing permission; and a student may apply up to 6 hours of Pass/No Pass credit toward a minor in English, subject to the approval of the department granting the major. To secure the necessary approval, students may obtain request forms from the Arts and Sciences Advising Center, 107 Oldfather Hall.

**International Students.** International students who are not native speakers of English must take an English placement examination. For details, see the coordinator of the English as a Second Language program in the Department of English.

## The Curriculum

**Course Offerings.** English courses are regularly offered in drama, poetry, and fiction; the English language; periods and authors in British and American literature; world literature in English; women's literature and minority literatures; creative and expository writing; literary and rhetorical theory and criticism; and film. For the precise courses offered or to be offered in any particular semester, see the *Schedule of Classes* for that semester. A course description booklet is also available in the departmental office and online before each early registration period.

**Credit Hours.** Undergraduate English courses will usually yield 3 semester hours of credit. Graduate-level seminars are usually offered for variable credit (normally 3 or 4 credit hours). The letter suffix "H" indicates an honors course.

**Independent Study.** This is a provision for students wishing to study areas of literature and language not covered or insufficiently covered in regularly scheduled classes. Students must secure permission from a professorial staff member willing to direct their study and must file an Independent Directed Reading Contract (available in the Advising Center, 123 Andrews Hall) with the Undergraduate Adviser.

**NOTE:** Neither ENGL 495 (Internship) nor 497 (Independent Study) count towards fulfilling 400-level requirements for majors and minors. A maximum of 6 credit hours of 399 (Independent Study) and/or 497 may count towards the 300-level requirement for the major.

**Prerequisites.** The first course in English is ordinarily chosen from courses numbered 100-151. However, international students who are not native speakers of English normally take 186 or 187-188.

## Course Levels

**100-Level.** Introductory courses open only to freshman and sophomore students. Transfer students and others who have not met the communication requirement and have 65 or more credit hours must choose ENGL 254 or 354 to complete this requirement. (In unusual cases, exceptions to this rule may be granted by the Chief Adviser, English Department.) Writing is emphasized in courses numbered 100-199, and all such courses except 180, 189H, and 186, 187, are designed to fulfill the first-year English

(composition) requirement (Group A). Newly admitted students who are not native speakers of English must take an English placement examination to determine their appropriate course requirement.

**200 Level.** Courses designed for the intermediate student who has completed one or two courses in English.

**300 Level.** Courses designed for the intermediate student who ordinarily will have had two courses at the 200 level. These students should normally take the remainder of their courses at the 300 level or 400 level. English majors and minors should advance to the 300 level as soon as possible.

**400 Level.** Courses designed for the advanced student or the student with a special interest. English majors must take at least 6 credit hours at the 400 level.

**800/900 Level.** Graduate courses. Graduate standing and at least 18 hours of undergraduate course work in English are prerequisite to courses at the 800- and 900-level. Advanced undergraduates may register in 800- and 900-level courses with the permission of the Dean of Graduate Studies, provided that these hours do not count towards their baccalaureate requirements.

## Courses of Instruction (ENGL)

**Frequency of Offerings.** An asterisk (\*) following the course title indicates a course not necessarily offered every year. Numbers without an asterisk indicate courses offered annually. The Department of English may offer other special or new courses not listed here. For specific listings for any particular semester, consult the *Schedule of Classes* and the Department of English course description booklet for that semester.

**NOTE:** Transfer students and others who have not met the communication requirement and have 65 or more credit hours must choose ENGL 254 or 354 to complete this requirement. (In unusual cases, exceptions to this rule may be granted by the Undergraduate Adviser, English Department.)

(ACE 1) [ES][IS] 101. **Writing: Rhetoric and Reading** (3 cr) Lec 3. Intensive writing. Writing and critical reading practices. Develop writing projects for multiple purposes and audiences.

(ACE 1) [ES][IS] 101H. **Honors: Writing: Rhetoric and Reading** (3 cr) Lec 3. Prereq: Good standing in the University Honors Program or by invitation. Intensive writing. Writing and critical reading practices. Develop writing projects for multiple purposes and audiences.

(ACE 1) [ES][IS] 150. **Writing: Rhetoric as Inquiry** (3 cr) Lec 3. ENGL 150 is open to freshmen and sophomores only. Intensive writing. Writing as a tool for inquiry and research. Develop writing projects for multiple purposes and audiences.

(ACE 1) [ES][IS] 150H. **Honors: Writing: Rhetoric as Inquiry** (3 cr) Prereq: Good standing in the University Honors Program or by invitation. ENGL 150H is open to freshmen and sophomores only. Intensive writing. Writing as a tool for inquiry and research. Develop writing projects for multiple purposes and audiences.

(ACE 1) [ES][IS] 151. **Writing: Rhetoric as Argument** (3 cr) Lec 3. ENGL 151 is open to freshmen and sophomores only. Intensive writing. Writing as a tool for argument. Develop writing projects for multiple purposes and audiences.

(ACE 1) [ES][IS] 151H. **Honors: Writing: Rhetoric as Argument** (3 cr) Lec 3. Prereq: Good standing in the University Honors Program or by invitation. Intensive writing. Writing as a tool for argument. Develop writing projects for multiple purposes and audiences.

(ACE 5) [ES][IS] 180. **Introduction to Literature** (3 cr) Does not satisfy the freshman English (composition) requirement. General introduction for beginning students to the understanding and appreciation of the principal forms of literature: poetry, drama, and fiction.

186. **ESL/Academic Language Skills** (3 cr) Prereq: Permission. Does not satisfy arts and sciences communication requirement. Speaking and writing in academic contexts for international students.

187. **ESL/Introduction to Academic Writing** (3 cr) Prereq: Permission. Does not satisfy arts and sciences communication requirement. Writing course for international students focusing on essay development and organization.

[ES] 188. **ESL/Advanced Communication Skills** (3 cr) Prereq: Permission. ENGL 188 is open to freshmen or sophomores only. Advanced academic writing and speaking for international students.

(ACE 5) [ES][IS] 189H. **University Honors Seminar\*** (3 cr) Prereq: Good standing in the University Honors Program or by invitation. University Honors Seminar 189H is required of all students in the University Honors Program. Topics vary.

199. **Independent Directed Reading** (1-6 cr) Prereq: Permission.

[ES][IS] 200. **Introduction to English Studies** (3 cr) Required of English majors; recommended for others interested in the perspectives and methods of English studies. The issues, perspectives, and methods of the discipline. The relationships among authors, texts, audiences, and contexts. Practice in imaginative and analytical approaches.

(ACE 5) [ES][IS] 201A. **Introduction to Drama\*** (3 cr) Introduction to the understanding and appreciation of the major dramatic genres—tragedy, comedy, and tragicomedy—in various historical periods.

(ACE 5) [ES] 201B. **Twentieth Century Drama\*** (3 cr) Major playwrights and dramatic movements, such as realism, naturalism, expressionism, "epic theater," and theater of the absurd, from Ibsen to the present.

(ACE 5) [ES][IS] 202. **Modern British and American Poetry\*** (3 cr) Introductory survey of major authors and movements in England and America in the twentieth century. Usually includes Yeats, Eliot, Frost, Stevens, Williams, others.

(ACE 5) [ES] 202A. **Introduction to Poetry** (3 cr) Introduction to reading poetry. Emphasizes approaches to reading poems, analysis of themes and forms, and enjoyment of poetry as a genre.

(ACE 5) [ES][IS] 205. **Twentieth Century Fiction** (3 cr) Selected readings in the novel and short story, mainly American, British, and European, from 1900 to the present.

[ES] 205D. **Fiction Since 1950\*** (3 cr) Representative examples of recent trends in novels and short stories, primarily British and American.

[ES][IS] 209. **Film: The Documentary\*** (3 cr) Nonfiction film genre from the 1890s to the present, highlighting the major events that have significantly affected it, its cinematic techniques, and its social context. Weekly film screenings.

[ES] 210. **Themes in Literature** (3 cr) Introduction to groups of literary works of various types from various periods and countries, studied in the context of a significant issue or concept. Examples: Christian themes in literature, Arthur in legend and literature, literature of war and peace, and illness and health in literature.

210A. **Christian Themes** (3 cr)

(ACE 5) [ES][IS] 210 I. Illness and Health in Literature (3 cr) Lec 3.  
Representations of illness and health as states of the body in a variety of literary texts.

(ACE 5) [ES][IS] 210 L. Arthur in Legend and Literature (3 cr) Lec 3.  
Introduction to medieval literature and culture via the legends and romances of King Arthur and "The Matter of Britain."  
Translations that were originally in Latin, Welsh, and French as well as English. The questions of ethnicity raised by the idea of an ancient Celtic "Britain."

(ACE 5, 8) [ES][IS] 210 P. Literature of War and Peace (3 cr) Lec 3.  
Literary works written in response to war, conflict, and peace.

(ACE 5) [ES][IS] 210 T. Stories and Human Experience (3 cr) Lec 3.  
Imaginative works drawn from literature and film. The ways in which different genres or media are used to tell stories and record lived experiences.

**211. Regional Literature** (3 cr)  
Introduction to literary works of various types and periods representative of the themes and perspective of writers influenced by a particular regional culture.

[ES][IS] 211A. Plains Literature (3 cr) Lec 3.  
Introduction to writers and literary works associated with the geographic area of the Great Plains of the United States.

(ACE 5, 9) [ES][IS] 212. Introduction to Lesbian and Gay Literature (WMNS 212) (3 cr) Lec 3.  
Introduction to variety of works by lesbian, gay, bisexual and transgender writers. Literary, significant cultural, social, and historical issues and themes.

[ES][IS] 213E. Introduction to Film History (3 cr)  
Historical survey from 1880 to the present, dealing with the major directors, films, genres, and critical theories which have shaped films in the twentieth century. Weekly film screenings.

(ACE 5, 9) [ES][IS] 215. Introduction to Women's Literature (WMNS 215) (3 cr) Lec 3.  
Introduction to English literature written by women, studies in the cultural, social, and/or historical contexts.

[ES] 216A. Children's Literature\* (3 cr)  
Selected works of literature originally addressed primarily to children which have attracted adult attention to their artistry and themes.

[ES][IS] 219. Film Genre (3 cr)  
Various film genres, such as Gothic, the Western, and film noir, from their inception in the early 1900s to the present day. Variations (such as 219A, Film Noir) may concentrate on a particular genre. Weekly film screenings.

[ES][IS] 220. Introduction to Linguistic Principles (3 cr)  
Language as a system of arbitrary symbols for human communication. Pragmatics, semantics, syntax, morphology, phonology, language variation, first and second language acquisition, written language, language processing and the neurology of language.

(ACE 5) [ES][IS] 230. English Authors to 1800 (3 cr) Recommended for nonmajors interested in literature and its historical and cultural context.  
Major British writers from Beowulf to the end of the eighteenth century. Attention given to historical background.

(ACE 5) [ES][IS] 230A. Shakespeare (3 cr)  
Introductory study of a representative sample of Shakespeare's works. Some films of dramatic performances may be shown.

(ACE 5) [ES][IS] 231. English Authors after 1800 (3 cr) ENGL 231 is recommended for non-English majors interested in literature and its historical and cultural context.  
Major works by British authors of the Romantic and Victorian periods and of the twentieth and twenty-first centuries.

[ES] 232. The Jewish Idea in Modern Literature (MODL 232) (3 cr)  
For course description, see MODL 232.

[ES] 234D. Major Themes in World Literature\* (MODL 234D) (3 cr)  
For course description, see MODL 234D.

[ES][IS] 239. Film Directors (3 cr)  
Films of one director or a small group of directors. Weekly film screenings.

[ES][IS] 239B. Women Filmmakers (WMNS 239B) (3 cr) Lec 3.  
History and criticism of international women film directors.

[ES][IS] 240A. The World of Classical Greece\* (CLAS 281) (3 cr)  
For course description, see CLAS 281.

[ES][IS] 240B. The World of Classical Rome\* (CLAS 282) (3 cr)  
For course description, see CLAS 282.

[ES][IS] 243B. Literature of India\* (3 cr)  
Representative works by Indian writers, including works by and about women and the underclass, primarily written in English.

(ACE 5, 9) [ES][IS] 244. African-American Literature (ETHN 244) (3 cr)  
Representative African-American works, primarily twentieth century, of various genres, studied in their social and historical contexts.

(ACE 5, 9) [ES][IS] 244A. Introduction to African Literature (ETHN 244A) (3 cr)

Representative literary works by African writers, mainly in the English language, but with a sampling of works translated from other languages, from the twentieth century, and presented in their social, historical and social contexts.

(ACE 5, 9) [ES][IS] 244B. Black Women Authors\* (ETHN, WMNS 244B) (3 cr) Lec 3. *May not be offered every year.*  
Representative works of various types, primarily twentieth century, studied in their social and historical contexts.

(ACE 5, 9) [ES][IS] 244D. African-Caribbean Literature\* (ETHN 244D) (3 cr)

History and multi-generic variety of African-Caribbean literature written in English.

(ACE 5, 9) [ES][IS] 244E. Early African-American Literature\* (ETHN 244E) (3 cr)

Representative early African-American works of various genres, studied in their social and historical contexts, from the oral tradition to the Harlem Renaissance.

(ACE 5, 9) [ES][IS] 245A. Introduction to Asian-American Literature and Culture (ETHN 245A) (3 cr) Lec 3.  
Introduction to twentieth century Asian-American literature and relevant historical and cultural background.

(ACE 5, 9) [ES][IS] 245B. Native American Literature (ETHN 245B) (3 cr)

Introduction to literature by and about the American Indian covering early and recent periods.

(ACE 5, 9) [ES][IS] 245D. Chicana and/or Chicano Literature (ETHN 245D) (3 cr) Lec 3.

Introduction to literature by and about Mexican-Americans in its cultural and historical context.

[ES][IS] 245J. Jewish-American Fiction (JUDS 245J) (3 cr)  
Twentieth century novels and short stories by major Jewish-American authors.

[ES][IS] 245K. Canadian Literature (3 cr)

Canadian literature from the pre-confederation period to the present.

(ACE 5, 9) [ES] 245N. Native American Women Writers (WMNS 245N) (3 cr) Lec 3.

Representative writings by American Indian women in their social and historical contexts.

[ES][IS] 247. Literature and Arts on the Plains (3 cr)

Plains literature in the context of other arts and art history, focusing on mainstream Euro-American and traditional native American arts. Literature in relation to painting, sculpture, music, theater, and folk arts.

(ACE 7) [IS] 250. Introduction to Creative Writing (3 cr) Lec 3.  
Introduction to the writing of poetry, fiction, and creative non-fiction. Writing, the development of the craft and technique, and analytical reading skills.

(ACE 7) [ES][IS] 252. Introduction to Writing of Fiction (3 cr) Lec 3.  
Introduction to the writing of fiction. Writing, analysis of craft, technique, and reading skills.

(ACE 7) [ES][IS] 253. Introduction to Writing of Poetry (3 cr) Lec 3.  
Introduction to the writing of poetry. Writing, analysis of craft, technique, and reading skills.

(ACE 7) [ES] 253A. Writing of Poetry: Women's Poetry (WMNS 253A) (3 cr) Lec 3. ENGL/WMNS 253A *may not be offered every year.*  
Introduction to the writing of poetry. Emphasis on student writing with special focus on reading women poets and on issues that concern women writers.

(ACE 1) [ES][IS] 254. Writing and Communities (3 cr) Lec 3.  
Extended writing and its uses in and by various communities.

(ACE 7) 258B. Autobiographical Writing\* (3 cr)  
Reading and analysis of published autobiographical writing and practice in recalling, researching, and writing autobiographical material.

258. Special Topics in Writing (2 cr) Prereq: 6 hrs 100-level ENGL.  
Independent study course for intermediate students in the study and practice of composition.

[ES][IS] 259A. Writing for Films (3 cr) Lec 3.  
Introduction to the basics of screenplay writing from the conception of an idea through its realization in a screenplay written in the master scene format.

[ES] 269. Film Period\* (3 cr)  
Intensive examination of artistic movements and major directors in an important historic period of film. Examples: Russian film of the '20s, the French New Wave, Hollywood in the '30s. Weekly film screenings.

(ACE 5) [ES][IS] 270. Literary/Critical Theory (3 cr)  
Nature and function of literary/critical theory in the study of literary texts. Selected approaches and is not intended as a general survey.

(ACE 5, 8) [ES][IS] 275. Introduction to Rhetorical Theory\* (3 cr)  
Nature and function of rhetorical theory as applied to English Studies. Selected important ancient and modern rhetorical theories and is not intended as a general historical survey.

[ES][IS] 278. Introduction to Humanities Computing (3 cr) Lec 3. ENGL 278 *requires contributing to an ongoing Web-based project.*  
Introduction to the variety of rationales, technologies, and materials that commonly inform electronic projects in the humanities. Definitions of digital research, various theoretical and methodological approaches, and the implications for the academy, publishers, classrooms, and libraries.

(ACE 7) [ES][IS] 282. Literature and the Other Arts\* (3 cr)  
Introduction to the interdisciplinary study of both thematic and formal/technical relationships between works of literature and music, visual arts, theatre, and the plastic and spatial arts.

[ES] 283. Contemporary Culture (3 cr)  
Contemporary cultural texts (e.g., television, sports, music, literature). Relations between these texts and their significance within contemporary society.

[ES] 285. Introduction to Comparative Literature\* (MODL 285) (3 cr) Prereq: Sophomore standing and at least 3 cr in literature in English or modern languages.  
Introduction to the methods and materials of scholarly comparison of literatures of different languages, cultures, historical periods, and genres.

298. Special Topics (1-3 cr, max 3)

**299. Independent Directed Reading (1-6 cr)** Prereq: Permission.

(ACE 5) [IS] 302A. Poetry since 1945\* (3 cr) Lec 3.

Major authors, themes, and trends in poetry from 1945 through the end of the twentieth century. Works from the Beat, Confessional, New York School, San Francisco Renaissance, Black Arts, Feminist, Language, New Formalist, and other "schools" of poetry.

[IS] 302B. Contemporary Poetry (3 cr) Lec 3.

Major authors, themes, and intellectual trends in contemporary poetry.

(ACE 5) [ES][IS] 303. Short Story (3 cr)

Introduction to the historical context, criticism, and interpretation of short stories.

(ACE 5) [ES][IS] 305A. The Novel 1700-1900 (3 cr)

Readings in the British novel from its beginning to 1900. Examples: works by Defoe, Fielding, Austen, Dickens, Eliot, Hardy.

[ES][IS] 311D. Literature of Socialism\* (3 cr) Lec.

Imaginative literature and philosophical and social writing of diverse revolutionary social movements. Marxism, Anarchism, Feminism, Third World authors and thinkers, and the history of American radicalism.

(ACE 5) [ES][IS] 311G. Revolution and Romanticism\* (3 cr) Lec 3. Prereq: Permission

Romantic movement in literature and its relation to political and economic revolutions in England, France, and America.

**313B. The Film Industry\* (3 cr)** *Counts for credit toward the film studies minor, but does not count for credit toward the English major or minor.*

Historical development and contemporary practice of the motion picture industry as a business, dealing with issues such as exhibition, production, distribution, and the unionization of films.

(ACE 5, 9) [ES][IS] 315A. Survey of Women's Literature

(WMNS 315A) (3 cr) Lec 3. ENGL/WMNS 315A *may not be offered every year.*

Historical survey of women's writings in English.

(ACE 9) [ES][IS] 315B. Women in Popular Culture (WMNS 315B) (3 cr) Lec 3.

Relation between women's roles and popular images in the media, including romances, television shows, science fiction, and magazines, with attention to their historical development.

**322A. Modern English Grammar\* (3 cr)** *A course in linguistic analysis of the structure of the English language and not a course in the rules of English grammar and composition.*

Aims, methods, and results of descriptive analysis of contemporary English, with emphasis on the syntax of American English.

[ES][IS] 322B. Linguistics and Society\* (3 cr)

How language is used in the media, education, and politics. Bilingualism, speech style, kinesics, pragmatics, orality and literacy, dialects, gender and applied sociolinguistics.

**330. British Authors to 1800 (3 cr)**

The works of an author or small group of authors, usually in historical and biographical context.

(ACE 5) 330A. Shakespeare on Screen (3 cr) Lec 3. ENGL 330A *requires weekly film screenings.*

Strategies employed in adapting the plays of William Shakespeare for film and video. Integration of critical approaches from the perspectives of cultural studies, film, literature, and theatre.

[ES][IS] 330E. Chaucer, Shakespeare, Milton (3 cr) Lec 3.

Three major figures of English literature: Geoffrey Chaucer, William Shakespeare, and John Milton. How changes in society and in the media of production (oral presentation, manuscripts, public and private stages, and print) affected each writer's sense of his audience and his craft. These writers in relation to each other: their common themes, shared sources, and awareness of and challenges to literary predecessors.

(ACE 5) 331. British Authors Since 1800\* (3 cr) Lec 3. ENGL 331 *may not be offered every year.*

The works of an author or small group of authors, usually in historical and biographical context.

**332. American Authors to 1900\* (3 cr)**

Intensive study of the works of an author or small group of authors, usually in historical and biographical context. Examples: Mark Twain, Robert Frost, Fitzgerald, and Hemingway.

**333. American Authors Since 1900\* (3 cr)** *ENGL 333 may not be offered every year.*

The works of an author or small group of authors, usually in historical and biographical context.

(ACE 5) [IS] 333A. Willa Cather and Her World (3 cr) Lec 3.

ENGL 333A *may not be offered every year.* Cather's work as an entry into the humanities, multiple texts, and their contexts. Interdisciplinary approach.

## [ES][IS] 333M. American Literary Traditions (3 cr) Lec 3.

American literary traditions or movements through multiple genres from a variety of theoretical, socio-historical, and cultural approaches.

(ACE 5) [ES][IS] 340. Classical Roots of English Literature\* (3 cr)

Greek and Roman literary works emphasizing their influence on English and American literature.

(ACE 5) [ES][IS] 341. The Bible as Literature\* (3 cr) Lec 3.

Introduction to the literary analysis of the Hebrew and Christian Scriptures with emphasis on their influence on British and American literature.

## [ES] 342A. Irish Literature\* (3 cr)

Works of Irish authors written in English, primarily from the late nineteenth century to the present, in their historical, cultural, and social context.

[ES][IS] 344. Ethnicity and Film (ETHN 344) (3 cr) Lec 3.

Construction of ethnic identities in film and TV and the impact of such images on American culture.

## [ES][IS] 347. Humanities on the Plains\* (3 cr)

Literature of the plains in its ethnic cultural contexts, both in relation to the arts and humanities, and to religion, anthropology, history and geography.

## 349. National Cinemas\* (3 cr)

Films produced in one country, seen in their aesthetic and historical context. Examples: Italian cinema since World War II, Japanese cinema, Australian cinema.

## (ACE 7) 352. Advanced Writing of Fiction (3 cr)

Study and practice of the writing of fiction for intermediate students with previous fiction writing experience.

## (ACE 7) 353. Advanced Writing of Poetry (3 cr)

Study and practice of the writing of poetry for intermediate students with previous poetry writing experience.

(ACE 1) [IS] 354. Writing: Uses of Literacy (3 cr) Prereq: 3 hrs writing course at the 200 level or above.

Extended practice in writing through the study of literacy—situating students' own literacy histories, exploring larger public debates about literacy, and researching the relationships between language, power, identity and authority.

## 357. Composition Theory and Practice (3 cr) Prereq: Admission to Teacher Education Program in the College of Education and Human Sciences.

Recent research on literacy development and writing processes. Extended reflection and some application of theory to students' experiences with writing instruction and their own goals as K-12 teachers.

## (ACE 5) [ES][IS] 361A. Introduction to Early American Literature\* (3 cr) Lec 3.

Major authors, themes, and intellectual trends in American literature from the beginnings to 1865. Works from the Colonial, Early National, and Romantic periods.

## (ACE 5) [ES][IS] 361B. Introduction to Late American Literature (3 cr) Lec 3.

Major authors, themes, and intellectual trends in American literature from 1865 to the present. Works from the Realist, Modernist, and Contemporary periods.

## [ES][IS] 362. Introduction to Medieval Literature (3 cr)

Major English works, in the original language and in translation, from Beowulf to the late Middle Ages, with a focus on Chaucer.

## [ES][IS] 363. Introduction to Renaissance Literature (3 cr)

Representative works in various genres written in England during the sixteenth and early seventeenth centuries which reflect major themes and intellectual trends of the Renaissance period.

## (ACE 5) [ES][IS] 364. Introduction to Restoration and Eighteenth Century Literature (3 cr)

Major English writers—such as Dryden, Pope, Swift, Johnson—seen in the literary, historical, and intellectual context of the period 1660-1800.

## (ACE 5) [ES][IS] 365. Introduction to Nineteenth Century British Literature (3 cr)

Poetry and prose of the principal British authors of the Romantic and Victorian periods.

## [ES][IS] 373. Film Theory and Criticism (3 cr)

History of film theory and methods of applied criticism for the intermediate or advanced student with previous film study experience. Weekly film screenings.

## (ACE 8, 9) [IS] 376. Rhetoric: Argument and Society\* (3 cr)

Major rhetorical theories, both ancient and modern, with emphasis on the politics and psychology of persuasion in its social context.

## 377. Reading Theory and Practice (3 cr) Prereq: Admission to Teacher Education Program in the College of Education and Human Sciences.

Recent research on literacy development and reading processes. Extended reflection and some application of theory to students' experiences with reading instruction and their own goals as K-12 teachers.

[ES] 381. Ancient Novel (CLAS 381) (3 cr) Prereq: Junior standing or permission. For course description, see CLAS 381.

## 398. Special Topics (1-6 cr, max 6) Lec.

## 399. Independent Directed Reading (1-6 cr) Prereq: Permission.

## 399H. Honors Course (1-4 cr) Prereq: Good standing in the University Honors Program or by invitation.

## 401/801. Drama\* (3 cr)

Particular historical periods or other groupings of dramas, examining the relation of the writers both to one another and to the aesthetic and intellectual climate of their times. Examples: drama survey, modern drama, American drama, Shakespeare's contemporaries in drama.

## 401K/801K. Gay and Lesbian Drama\* (3 cr)

Overview of contemporary gay and lesbian drama.

## 402/802. Poetry (3 cr)

Epic, Renaissance, Romantic, Victorian, American, and contemporary poetry.

## [IS] 402L. Romantic Poetry (3 cr) Lec 3.

Survey of British poetry, 1780-1835. The traditional major authors and some of the many other poets whose works were popular and influential. The social, historical, and cultural context.

## [IS] 403/803. American Short Story (3 cr)

The narrative genre of the short story, as represented by stories from American authors of the nineteenth century to the present day.

## 405/805. Fiction (3 cr) Lec 3.

Fiction, primarily novels, in particular historical periods or other groupings. The relation of the writers both to one another and to the aesthetic and intellectual climate of their time.

## 405A/805A. 19th Century British Novel (3 cr) Lec 3.

The most popular and influential literary genre in the nineteenth century, the novel, through representative Romantic, Victorian, and "fin de siècle" (end of century) works.

## [IS] 405B/805B. 18th Century British Novel (3 cr) Lec 3.

Survey of British fiction (primarily novels), 1780-1850. Major and minor authors whose works illustrate the tastes and trends of British fiction in the early modern period. The literary, social, and cultural context.

**[IS] 405E/805E. Modern Fiction (3 cr) Lec 3.**

Key British and American novels and short stories from about 1910 to 1950. Modernism as a literary and cultural practice. Modernism's interpretation of the revolutionary changes in culture and society in the first half of the twentieth century. The relation between modernism and postmodernism.

**[IS] 405J/805J. 20th Century British Fiction (3 cr) Lec 3.**

Twentieth century British novels and short stories. Modernism and postmodernism as aesthetic, cultural, and social movements and phenomena.

**[IS] 405K/805K. Canadian Fiction (3 cr) Lec 3.**

Survey of modern Canadian novels and short stories from 1920 to the present plus some other genres. The historical and cultural context.

**[IS] 405M/805M. American Novel I (3 cr) Lec 3.**

Survey of novels written by a variety of men and women of diverse backgrounds in the United States from the late eighteenth century to 1900.

**[IS] 405N/805N. American Novel II (3 cr) Lec 3.**

Survey of novels written by a variety of men and women of diverse backgrounds in the United States from 1900 to the present day.

**406/806. Genre\* (3 cr)**

History and theory of the concept of genre as exemplified in literary works in various forms: comedy, tragedy, and satire.

**[ES][IS] 410/810. Studies in Literary Movements (3 cr) Lec 3.**

Intensive study of a literary movement (national or transnational), the development of a genre, or the intellectual and historical origins of an idea, as reflected in literature. May include the literature of abolition, alternative Romantics, literary modernism, the literature of Civil Rights, postmodernism, and/or the avant-garde movement.

**[IS] 411/811. Plains Literature\* (3 cr)**

Intensive study of various forms of literature seen in the historical, cultural, and aesthetic context of the North American Great Plains.

**413/813. Film (3 cr)**

Advanced critical and historical theory and history in film, using more difficult texts (both as films and as readings) for the students, to create an intense immersion into more complex films and critical readings.

**414/814. Women's Literature (3 cr) Lec 3.**

A particular historical or other groups of literature by and about women, seen in their aesthetic and intellectual context.

**[IS] 414B/814 B. Modern and Contemporary Women Writers (WMNS 414B/814B) (3 cr) Lec 3.**

Selected women writers from the twentieth and twenty-first century.

**420/820. Introduction to Linguistics\* (3 cr)**

Introduction for advanced students to the history and methods of linguistics, to the theory of language, and to applications of linguistics in a variety of fields and disciplines.

**426/826. History of the English Language\* (3 cr)**

Historical development of contemporary English with particular attention to its Old and Middle English background.

**427/827. Applications of Linguistics\* (3 cr)**

Practical application of the principles of linguistics. Examples: TESOL Theory and Practice, Second Language Composition Theory and Practice, Introduction to First and Second Language Acquisition, Teaching of Grammar.

**428/828. Old English\* (3 cr)**

Intensive study of Old English aimed at enabling students to read and understand literary texts of the period in their historical context.

**430/830. British Authors to 1800 (3 cr) Lec 3.**

The works of a particular major author, such as Chaucer, Shakespeare, or Milton situated within literary, historical, biographical, and critical context.

**[IS] 430A/830A. Shakespeare I (3 cr) Lec 3.**

How performance-based strategies can help in understanding and in teaching Shakespeare's plays. The historical and contemporary stage practices, the performance history of these plays, and recent criticism that engages with the insights of both Performance Theory and Semiotics.

**432/832. American Authors to 1900\* (3 cr)**

Extensive study in the works of a particular major author seen in a wide critical context. Example: Mark Twain.

**433/833. American Authors Since 1900\* (3 cr)**

Extensive study in the works of a particular major author seen in a wide critical context. Example: William Faulkner.

**[IS] 439/839. Film Directors (3 cr)**

Intensive study of the films of one director or a small group of directors, with emphasis on an auteur approach. Weekly film screenings.

**[ES] 440/840. Classical Drama (CLAS 483/883) (3 cr) Prereq:**

Senior standing or permission.

For course description, see CLAS 483/883.

**[IS] 445/845. Ethnic Literature (ETHN 445) (3 cr) Lec 3.**

Works of writers with connections to one or more American ethnic communities, seen in their historical, intellectual, and cultural context. Survey of ethnic literature.

**445B/845B. African-American Literature (ETHN 445B) (3 cr) Lec 3.**

African-American poetry, fiction, and/or nonfiction prose.

**[IS] 445E/845E. Native American Literature (ETHN 445E) (3 cr) Lec 3.**

Native American poetry, fiction, and/or nonfiction prose. Critical theory and cultural criticism.

**[IS] 445K/845K. African and/or African American Literature (ETHN 445K) (3 cr) Lec 3.**

African and African-American poetry, fiction, and/or nonfiction prose.

**452/852. Fiction Writing\* (3 cr) Prereq: ENGL 252 or permission.**

For advanced students with previous experience in fiction writing. Longer projects in fiction writing.

**452A/852A. Writing of Literary Non-Fiction (3 cr) Prereq:**

ENGL 252 or 253, or permission.

Advanced (workshop) course for creative writers; emphasis on memoirs, personal essays, other forms of literary non-fiction.

**453/853. Writing of Poetry (3 cr) Prereq: ENGL 253 or permission.**

For advanced students with previous experience in poetry writing.

**(ACE 10) 454/854. Advanced Writing Projects\* (3 cr) Prereq: 3 hrs English composition above the English 200 level or graduate standing or permission.**

Advanced writing workshop in which experienced writers develop extended projects in writing, analyze their own and other's writing processes, and read widely in genres related to their projects.

**[IS] 457A/857A. Composition and Rhetorical Theory (3-4 cr)**

Theoretical approaches to writing instruction and to the field of composition and rhetoric.

**459/859. Writing for Film (3 cr) Lec 3. ENGL 459/859 is for advanced students with previous experience in script writing.**

Development of longer forms of screenplays.

**[IS] 462/862. Survey of Medieval Literature\* (3 cr)**

Extensive readings in the various genres and movements of Medieval English literature and their cultural context.

**[IS] 462A/862A. Ideas of Ethnicity in Medieval Literature (JUDS 462A) (3 cr)**

Medieval literary texts that involve encounters between different religions and cultures. Readings from chronicles, romances, debates and epics.

**463/863. Survey of Renaissance Literature\* (3 cr)**

Extensive study of major authors and works of the sixteenth and early seventeenth centuries with particular attention to the development of poetic and prose literary forms and their cultural context.

**464/864. British Literature, 1660-1800\* (3 cr)**

Extensive study of major writers and critical issues of the period. Emphasis on poetry and nonfiction prose.

**[IS] 465/865. 19th Century British Literature\* (3 cr)**

Extensive study of poetry and prose of the Romantic and Victorian periods with emphasis on their intellectual and cultural context.

**467/867. Literary History\* (3 cr)**

Theory of literary periods and movements and the causes for change among them. Periods, movements, and readings are taken from British literature from about 1475 to about 1950.

**471/871. Literary Criticism and Theory\* (3 cr)**

History, analysis and application of a variety of trends in literary criticism and critical theory.

**475/875. Rhetoric\* (3 cr) Lec 3. ENGL 475/875 may not be offered every year.**

Rhetoric and rhetorical theory in relation to literature, composition, and language.

**[IS] 475A/875A. Rhetorical Theory: Rhetoric of Women Writers (WMNS 475A/875A) (3 cr) Lec 3.**

Rhetoric and rhetorical theory of women writers and speakers and its implications for literature, composition, literacy, feminist theory, and women's and gender studies.

**[IS] 478/878. Electronic Texts: Theory and Practice (English) (3 cr) Lec. Prereq: Junior standing.**

The shift from printed to digital texts and its implications for the nature of meaning and research in the humanities. Practice in digitally encoding texts and analysis of representative electronic projects dedicated to a variety of authors and genres.

**[IS] 480/880. Writing Theory and Practice for Consultants (3 cr) Lec 3. Successful completion of ENGL 480/880 is required to intern or work as a consultant in UNL's Writing Assistance Center. Introduction to issues and scholarship in teaching writing and working as a writing consultant.****[IS] 482/882. Literacy Issues and Community (3-6 cr)**

Literacy theory and its application in school, community, and workplace environments. May include a literacy and/or writing internship in a community or workplace setting.

**(ACE 10) [IS] 487. English Capstone Experience (3 cr) Lec 3. Prereq: 3 hrs English composition above the ENGL 200 level. Individual projects.**

Integration and application of skills and knowledge gained in courses taken for the English major. Development of these skills and knowledge toward life after graduation.

**[IS] 489/889. Medieval Literature and Theology (RELG 489/889) (3 cr)**

The relationship between significant medieval theologies and primary medieval poets and prose masters.

**495. Internship in English (1-6 cr) Prereq: Permission.****497/897. Independent Directed Reading (1-6 cr) Prereq: Permission.****498/898. Special Topics (1-6 cr, max 6) Lec. Prereq: Senior standing.****884. GESL/Advanced Academic Writing (3 cr) Prereq: Permission.****\*886. GESL and/or Academic Language Skills (3 cr) Prereq: Permission.****\*887. GESL and/or Academic Research Skills (3 cr) Prereq: Permission.****\*888. Spoken English for International Students (3 cr) Prereq: Permission.****895. Internship in Teaching English (1-3 cr) Prereq: Permission.****896. Research and Reading (1-6 cr)****899. Masters Thesis (6-10 cr)**

Refer to the Graduate Bulletin for 900-level courses.

## Environmental Studies

**Director and Chief Undergraduate Adviser:** Dave Gosselin, 150A Hardin Hall  
**Academic Adviser:** Sara Yendra, 345 Nebraska Union and 149B Hardin Hall  
**Coordinating Committee:** Professors Burbach (natural resources), Comfort (natural resources), Hage (chemistry), Namurlani (geography), Pilson (biological sciences), Lawson (geosciences), Wandsnider (anthropology), Williams (sociology)  
**Liaison Persons:** Greg Snow, Associate Dean (College of Arts and Sciences); Steve Waller, Dean (College of Agricultural Sciences and Natural Resources)  
**Website:** [www.unl.edu/esp/](http://www.unl.edu/esp/)

The environmental studies major is designed for students who want to make a difference and contribute to solving current as well as future environmental challenges on a local to global scale. Solutions to such problems as climate change, pollution, and resource conservation require individuals who have a broad-based knowledge in the natural sciences, social sciences, and the humanities as well as strength in a specific discipline. The environmental studies major provides students with a degree and the skills to work across disciplines and offers the versatility needed for them to be competitive in the job market. Students may select a BS track through the College of Agricultural Sciences and Natural Resources (see "Environmental Studies" on page 73) or a BS or BA track through the College of Arts and Sciences. The degree program consists of four required components:

1. Every major must complete a set of core courses that provide breadth in environmental science and issues.
2. Students must complete a set of general collateral course requirements, depending on the degree track chosen. These provide students with some useful analytical tools.
3. Majors must complete an emphasis to provide depth in one of the following areas: anthropology, biology, chemistry, geography, geology, meteorology-climatology, or sociology (through the College of Arts and Sciences); or applied climate science or natural resources (through the College of Agricultural Sciences and Natural Resources).
4. Prior to graduation, students must complete a "capstone" senior thesis (ENVR 499A and 499B) which includes a written thesis and oral defense under the guidance of a faculty adviser. In addition, students must complete the environmental studies seminar (ENVR 489).

The environmental studies program has an elective internship course (ENVR 497) which provides the opportunity to gain work experience in an off-campus setting related to a student's academic and career objectives. Advanced students are encouraged to explore this possibility with the adviser in their area of emphasis and with the Program Director.

Students interested in majoring in environmental studies through the College of Arts and Sciences are advised to make an initial appointment with the program or academic adviser. Those interested in pursuing a natural resources

emphasis or applied climate science should see the program director also. Once a student has selected an area of emphasis, advising regarding the emphasis will be done through the appropriate department. However, the program director will continue to be the student's degree adviser.

**Program Assessment.** In order to assist the department in evaluating the effectiveness of its programs, majors will be required to complete a written exit survey, submitted anonymously, in the senior seminar.

Results of participation in this assessment activity will in no way affect a student's GPA or graduation.

### Requirements for the Major in Environmental Studies

A course may count toward the core, the emphasis and the collateral requirement if it is included in more than one of these categories.

#### 1. Core Courses (BS and BA degrees) Total Credit Hours: 31-33

ANTH 473. Ecological Anthropology **or** ANTH 474 Applied & Developmental Anthropology **or** ANTH 476 Human Rights, Environment & Development **or** ANTH 477 Hunters-Gatherers (3 cr)

BIOS 232. Ecological Issues in the Great Plains **or** BIOS 207 Ecology & Evolution (4 cr) **or** BIOS/NRES 220 Principles of Ecology (3 cr)

**NOTE:** Biology Emphasis must take BIOS 220 Principles of Ecology (3 cr) and BIOS 222 Ecology Lab (1 cr) **or** BIOS 207 Ecology & Evolution (4 cr)

CHEM 105. Chemistry in Context I **or** CHEM 109 General Chemistry I **or** CHEM 113 Fundamental Chemistry I (4 cr)

ENVR 289. Environmental Studies Orientation (1 cr)

ENVR 489. Environmental Studies Seminar (1 cr)

ENVR 499A. Environmental Studies Senior Thesis I (1 cr)

ENVR 499B. Environmental Studies Senior Thesis II (2 cr)

GEOG 181. Quality of the Environment **or** NRES 103 Intro to Agricultural & Natural Resource Systems (3 cr)

GEOL 101. Physical Geology (4 cr) **or** GEOL 106 Environmental Geology (3 cr)

METR 200. Weather & Climate (4 cr)

NRES 323. Natural Resources Policy (3 cr)

SOCI 444. Social Demography **or** SOCI 446 Environmental Sociology (3 cr)

#### 2a. General Collateral Course Requirements (BS degree) Total Credit Hours: 24-25

CHEM 110. General Chemistry II **or** CHEM 114 Fundamental Chemistry (4 cr) **and** CHEM 116 Quantitative Chemistry Lab (5 cr)

MATH 106. Analytical Geometry & Calculus I (5 cr) **and** MATH 107 Analytical Geometry & Calculus II (5 cr)

PHYS 141. Elementary General Physics and PHYS 142 Elementary General Physics (10 cr) **or** PHYS 211 General Physics and PHYS 221 General Physics Lab and PHYS 212 General Physics and PHYS 222 General Physics Lab II (10 cr)

#### 2b. General Collateral Course Requirements (BA degree) Total Credit Hours: 9-10

(Equivalent courses may be substituted with adviser's and Dean's Office approval.)

Research Tool (one course from each group)

ANTH 484 Quantitative Methods in Anthropology (3 cr) **or** GEOG 414 Quantitative Methods in Geography (3 cr) **or** SOCI 205 Intro to Social Research I (3 cr)

GEOG 317. Cartography (4 cr) **or** GEOG 412 Intro to Geographic Information Systems (4 cr) **or** GEOG 418 Remote Sensing I (3 cr)

STAT 218. Intro to Statistics (3 cr)

#### 3. Emphases (BS or BA degree)

##### Total Credit Hours: 18-25

Anthropology

Applied Climate Science (Only available through the College of Agricultural Sciences and Natural Resources)

Biological Sciences

Chemistry

Geography

Geology

Meteorology-Climatology

Natural Resources (Only available through the College of Agricultural Sciences and Natural Resources)

Sociology

#### Anthropology Emphasis in Environmental Studies (BA degree) Total Credit Hours: 18

##### Required from Environmental Studies Core:

ANTH 473. Ecological Anthropology (3 cr)

##### Required for Anthropology Emphasis (6 cr):

Choose two of the following:

ANTH 110. Intro to Anthropology (3 cr)

ANTH 212. Intro to Cultural Anthropology (3 cr)

ANTH 261. Conflict Resolution (3 cr)

ANTH 476. Human Rights, Environment & Development (3 cr)

##### Regional Background Courses (3 cr) chosen from:

ANTH 350. People & Cultures of Native Latin America (3 cr)

ANTH 351. Indigenous Peoples of North America (3 cr)

ANTH 352. Indigenous Peoples of the Great Plains (3 cr)

ANTH 362. Peoples & Cultures of Africa (3 cr)

ANTH 363. Peoples & Cultures of the Arctic (3 cr)

ANTH 366. Peoples & Cultures of East Asia (3 cr)

ANTH 417. History of Anthropological Theory (3 cr)

ANTH 430. Nutritional Anthropology (3 cr)

ANTH 434. Intro to Great Plains Archaeology (3 cr)

ANTH 476. Human Rights, Environment & Development (3 cr)

ANTH 477. Hunter-Gatherers (3 cr)

ANTH 496. Special Readings in Anthropology (3 cr)

##### Specialty Courses (3 cr) chosen from:

ANTH 432. History & Theory of Archaeology (3 cr)

ANTH 482. Research Methods in Anthropology (3 cr)

ANTH 483. Advanced Field Methods (3 cr)

**Allied Fields (6 cr) chosen from:**

- GEOG 334. Historical Geography of the Great Plains (3 cr)  
 SOCI 444. Social Demography (3 cr)  
 SOCI 446. Environmental Sociology (3 cr)

**Biological Sciences Emphasis in Environmental Studies (BA and BS degrees)****BA Degree—Total Credit Hours: 23-24**

- BIOS 102 Cell Structure & Function (3 cr) or 103 Biodiversity (4 cr) or 206 General Genetics (4 cr)

**Biodiversity Courses***Choose two of the following four:*

- BIOS 103. Biodiversity (4 cr)  
 BIOS 109. General Botany (4 cr)  
 BIOS 112. Intro to Zoology (4 cr)  
 BIOS 312 & 314. Microbiology with Lab (4 cr)  
*Choose three advanced organismal biology courses from:* 1 BIOS 374, 381, 385, 386, 422, 423, 436, 438, 441, 447, 455, 457, 471, 472, 473, 474, 475, 476, 482, 487, 488

**BS Degree—Total Credit Hours: 22-25****Biology (All of the following)**

- BIOS 103 (4 cr) or BIOS 312 (3 cr) & 314 (1 cr) or BIOS 381 (4 cr) or BIOS 386 (4 cr)  
 BIOS 207 (4 cr) or BIOS/NRES 220 & 222 (4 cr)

Pick four of the following courses from any of the following sections:

**Animal**

- BIOS 412H. Honors: Human Genetics (3 cr)  
 BIOS 422. Comparative Physiology (3 cr)  
 BIOS 423. Advanced Animal Physiology (3 cr)  
 BIOS 462. Animal Behavior (3 cr)  
 BIOS 464. Fisheries Biology (3 cr)  
 BIOS 468. Field Animal Behavior (4 cr)  
 BIOS 474. Herpetology (4 cr)  
 BIOS 475. Ornithology (3 cr)  
 BIOS 476. Mammalogy (3 cr)  
 BIOS 481. Helminthology (4 cr)  
 BIOS 482. Field Entomology (4 cr)  
 BIOS 485. Aquatic Insects (3 cr)  
 BIOS 487. Field Parasitology (4 cr)  
 BIOS 488. Natural History of Invertebrates (4 cr)  
 BIOS 489. Ichthyology (4 cr)

**Ecology**

- BIOS 406. Insect Ecology (3 cr)  
 BIOS 436. Quaternary Ecology & Climate (3 cr)  
 BIOS 450. Biology of Wildlife (4 cr)  
 BIOS 454. Ecological Interaction (4 cr)  
 BIOS 455. Great Plains Flora (4 cr)  
 BIOS 457. Ecosystem Ecology (4 cr)  
 BIOS 458. Wetlands (4 cr)  
 BIOS 459. Limnology (4 cr)  
 BIOS 462. Animal Behavior (3 cr)  
 BIOS 463. Experimental Methods in Animal Behavior (3 cr)  
 BIOS 470. Prairie Ecology (4 cr)  
 BIOS 472. Evolution (4 cr)

**Microbiology**

- BIOS 440. Microbial Physiology (3 cr)  
 BIOS 445 & 446. Food Microbiology (5 cr)  
 BIOS 447. Soil Microbiology (3 cr)  
 BIOS 453. Advanced Cell Biology (2 cr)  
 BIOS 464. Fisheries Biology (3 cr)  
 BIOS 473. Freshwater Algae (4 cr)

**Plant**

- BIOS 374. Economic Botany (4 cr)  
 BIOS 425. Plant Biotechnology (3 cr)  
 BIOS 434. Plant Biochemistry (3 cr)  
 BIOS 455. Great Plains Flora (4 cr)  
 BIOS 457. Ecosystem Ecology (4 cr)  
 BIOS 470. Prairie Ecology (4 cr)  
 BIOS 471. Plant Taxonomy (4 cr)  
 BIOS 473. Freshwater Algae (4 cr)  
 BIOS 478. Plant Anatomy (4 cr)

**Chemistry Emphasis in Environmental Studies (BS degree)****Core and Collateral Courses for BS Degree**

- CHEM 109. General Chemistry I (4 cr) and CHEM 110 General Chemistry II (4 cr) and CHEM 221 Elementary Quantitative Analysis (4 cr) or CHEM 113 Fundamental Chemistry I (4 cr) and CHEM 114 Fundamental Chemistry II (3 cr) and CHEM 116 Quantitative Chemistry Lab (2 cr)  
 CHEM 251. Organic Chemistry (3 cr) and CHEM 252 Organic Chemistry and CHEM 253 Organic Chemistry Lab (1 cr) and CHEM 254 Organic Chemistry Lab (1 cr) or CHEM 261 Organic Chemistry (3 cr) and CHEM 262 Organic Chemistry (3 cr) and CHEM 263 Organic Chemistry Lab (1-2 cr) and CHEM 264 Organic Chemistry Lab (1-2 cr)  
 CHEM 421. Analytical Chemistry (3 cr)  
 CHEM 423. Analytical Chemistry Lab (2 cr)  
 CHEM 471. Physical Chemistry & Lab (4 cr)  
 Plus one additional 3-credit chemistry course beyond 421, 423, and 471.

**Required Courses in Allied Fields:**

- MATH 106. Analytic Geometry & Calculus I (5 cr), MATH 107 Analytic Geometry & Calculus II (5 cr), and MATH 208 Analytic Geometry & Calculus III (4 cr)  
 PHYS 211. General Physics (4 cr)  
 PHYS 212. General Physics (4 cr)

**Geography Emphasis in Environmental Studies (BA and BS degrees)**

- A total of 18 credits with at least one course from A, B, and C.

**A. Human Geography**

- GEOG 120. Introductory Economic Geography (3 cr)  
 GEOG 140. Introductory Human Geography (3 cr)  
 GEOG 271. Geography of the United States (3 cr)  
 GEOG 272. Geography of World Regions (3 cr)  
 GEOG 283. Space, the Environment & You (3 cr)  
 GEOG 334. Historical Geography of the Great Plains (3 cr)  
 GEOG 375. Geography of Asia (3 cr)  
 GEOG 447. Political Geography (3 cr)

**B. Physical Geography**

- GEOG 155. Physical Geography (4 cr)  
 GEOL 450. Surficial Processes (3 cr)  
 GEOG 481. Water Resources Seminar (1 cr)  
 GEOG 498. Advanced Special Problems (1-24 cr)  
 METR 408. Microclimate: The Biological Environment (3 cr)  
 METR 475. Physical Climatology (3 cr)

**C. Geographic Techniques**

- GEOG 317. Cartography I (4 cr)  
 GEOG 412. Introduction to Geographic Information Systems (4 cr)

**GEOG 414. Quantitative Methods in Geography (3 cr)**

- GEOG 418. Remote Sensing I: Photographic Sensors (4 cr)  
 GEOG 419. Remote Sensing II: Non-Photographic Sensors (4 cr)

**Geology Emphasis in Environmental Studies (BS degree) Total Credit Hours: 26**

- GEOL 101. Physical Geology (4 cr)  
 GEOL 103. Historical Geology (4 cr)  
 GEOL 310. Petrology (3 cr)  
 GEOL 340. Structural Geology (3 cr)  
 GEOL 410. Geochemistry (3 cr)  
 GEOL 450. Surficial Processes (3 cr)  
 GEOL 488. Groundwater Geology (3 cr)  
*Plus 3 credit hours chosen from the following:*  
 GEOL 210. Minerals, Rocks and Ores (4 cr)  
 GEOL 361. Soils, Environment, & Water Quality (3 cr)  
 GEOL 414. Clay Mineralogy (3 cr)  
 GEOL 420. Siliciclastic Sedimentology (3 cr)  
 GEOL 442. Environmental Geophysics I (3 cr)

**Meteorology–Climatology Emphasis in Environmental Studies (BS Degree)****Total Credit Hours: 21**

- METR 205. Intro to Atmospheric Science (4 cr)  
 METR 441. Synoptic Meteorology (4 cr)  
 NRES 370. Basic & Applied Climatology (METR 370) (4 cr)

*Plus 9 credit hours from the following:*

- METR 408. Microclimate: The Biological Environment (3 cr)  
 METR 411. Dynamic Meteorology (3 cr)  
 METR 412. Dynamic Meteorology II (3 cr)  
 METR 423. Physical Meteorology (3 cr)  
 METR 442. Advanced Synoptic Meteorology / Climatology (3 cr)  
 METR 443. Severe Storms Meteorology / Climatology (3 cr)  
 METR 450. Climate & Society (3 cr)  
 METR 464. Satellite Meteorology (3 cr)  
 METR 469. Bio-atmospheric Instrumentation (3 cr)  
 METR 475. Physical Climatology (3 cr)  
 METR 483. Global Climate Change (3 cr)  
 METR 495. Internship in Meteorology / Climatology (1-6 cr)  
 METR 498. Advanced Special Problems (1-24 cr)

**Sociology Emphasis in Environmental Studies (BA and BS degrees)****Total Credit Hours: 21**

- SOCI 101. Intro to Sociology (3 cr)  
 SOCI 205. Intro to Social Research I (3 cr)  
 SOCI 206. Intro to Social Research II (3 cr)

*Plus 12 credit hours from the following:*

- SOCI 241. Rural Sociology (3 cr)  
 SOCI 242. Urban Sociology (3 cr)  
 SOCI 399. Advanced Readings (1-4 cr)  
 SOCI 444. Social Demography (3 cr)  
 SOCI 446. Environmental Sociology (3 cr)  
 SOCI 468. Policy & Program Evaluation Research (3 cr)  
 SOCI 480. Inequality: Stratification & Life Changes (3 cr)  
 SOCI 491. Political Sociology (3 cr)

1 Two courses (8 cr) of organismic biology/ecology courses taken at Cedar Point Biological Station (or other approved biology field station) will satisfy this requirement. BIOS 456 (Math Models in Biology) as a collateral course.

## Requirements for the Minor in Environmental Studies

- Total 18 hours with 6 hours at 300 level or above to include:

GEOG 181. Quality of Environment (3 cr) or AGRI/NRES 103 Food, Agriculture and Natural Resources Systems (3 cr)  
 ENVR 489. Environmental Studies Seminar (1 cr)  
*A minimum of 14 hours from the following:*  
 ANTH 473. Ecological Anthropology (3 cr)  
 BIOS 207. Ecology & Evolution (4 cr) or BIOS/NRES 220 Principles of Ecology\* (3 cr) or BIOS 232 Ecological Issues in the Great Plains (3 cr)  
 CHEM 105. Chemistry in Context I (4 cr) or 109 General Chemistry (4 cr) or 113 Fundamental Chemistry (4 cr)  
 ENVR 289. Environmental Studies: Sophomore Orientation (1 cr)  
 ENVR 499A & 499B. Senior Thesis (3 cr)  
 GEOL 106. Environmental Geology (3 cr)  
 METR 200. Weather & Climate (4 cr)  
 NRES 323. Natural Resources Policy (3 cr)  
 SOCI 446. Environmental Sociology (3 cr) or 444 Social Demography (3 cr)

\* For majors in biological sciences, BIOS 207 (4 cr) only is accepted.

## Courses of Instruction (ENVR)

(ACE 8) [IS] 189H. University Honors Seminar (3 cr I) Lec 3. Prereq: Good standing in the University Honors Program. *A University Honors Seminar 189H course is required of all students in the University Honors Program. ENVR 189H is 'Letter grade only.'* Topics vary.

289. Environmental Studies: Sophomore Orientation (1 cr I) Lec, rct. Prereq: Sophomore standing, or transfer student with less than 72 credit hours. *Pass/No Pass only.* Overview of various emphasis options within the Environmental Studies Program through a seminar of current environmental issues.

489. Environmental Studies Seminar (1 cr, II) Lec. Prereq: Senior standing; ENVR major or minor; or permission of program director. *Majors must have passed ENVR 289. Series of speakers dealing with topics related to an environmental theme selected for its appropriate and timely nature by the Environmental Studies Coordinating Committee.* Topic varies.

497. Internship in Environmental Studies (1-4 cr, max 12) Prereq: Junior standing; environmental studies major; prior arrangement with and permission of environmental program director and emphasis adviser. Experience in off-campus setting that is directly relevant to environmental studies.

498. Independent Study (1-4 cr, max 12) Prereq: Environmental studies major; prior arrangement with and permission of program director and emphasis adviser.

(ACE 10) 499A. Environmental Studies Senior Thesis I (1 cr) Prereq: Junior or senior standing; environmental studies major or minor; prior arrangement with program director and emphasis adviser or academic adviser. *First course of a two-semester sequence of courses consisting of ENVR 499A and 499B. Pass/No Pass only.* Preparation for writing the senior thesis

(ACE 10) 499B. Environmental Studies Senior Thesis II (2 cr) Prereq: ENVR 499A. *Second course of a two-semester sequence of courses consisting of ENVR 499A and 499B. The thesis is to be written under the supervision of the emphasis adviser or a faculty member designated by the adviser. A committee of two (the faculty member guiding the thesis and an additional member with expertise in the topic) will review the thesis.*

(ACE 10) 499H. Honors: Environmental Studies Senior Thesis I & II (3 cr) Lec, rct, ind. Prereq: Junior standing; good standing in the University Honors Program; ENVR major or minor; prior arrangement with program director, emphasis adviser, and honors program adviser.

For course description, see ENVR 499A and 499B.

## Institute for Ethnic Studies

**Director and Undergraduate Adviser:** Amelia Montes (English), 303 Seaton Hall

**Program Coordinators:** African American and African Studies, Dance (sociology); Latino and Latin American Studies, Garza (history); Native American Studies, Gannon (English)

**Faculty:** Awakuni-Swetland, McCollough, Sanchez (anthropology and geography); Castro, Dreher, Gannon, Montes, Rutledge, Vigil (English); Akers, Ari, Curry, Garza, J. Jones, P. Jones, Smith (history); González (modern languages and literatures); Willis-Esqueda (psychology); Carranza, Ceballos, Dance, Hagewen (sociology)

Ethnic Studies involves the exploration and examination of factors that bear on the lives and experiences, both past and present, of ethnically diverse peoples. The Institute for Ethnic Studies is interdisciplinary and intercollegiate, and focuses on the experiences of individuals and groups who are of African American, Latino/a, or Native origin or descent both in the United States and elsewhere.

Within the Institute, a major and a minor can be taken in Ethnic Studies (described below). Program-specific minors are also available in African Studies, African American Studies (see listing for African American and African Studies), Chicano Studies (see Latino and Latin American Studies), and Native American Studies (see separate bulletin listing); both a major and a minor are available in Latin American Studies (see Latino and Latin American Studies).

## Requirements for the Major in Ethnic Studies

### Program of Studies

All majors must take 36 credit hours, to include 18 credit hours from Groups A, B, and C (as described below) plus one of the following:

- 6 credit hours from each of Groups D, E, and F (18 hours total)
- 18 credit hours from one of Groups D, E, or F

Other courses (e.g., special topics, independent readings) may be substituted with the approval of the chief adviser.

No more than one half of the courses may be taken within one particular discipline (e.g., History, English). At least 12 credit hours must be taken at the 300 level or above, and at least 6 hours must be taken at the 400 level.

Students must also complete a Plan A minor from a discipline other than Ethnic Studies or one of its component programs.

**A. Required courses (6 credit hours required of all majors; cannot be taken Pass/No Pass)**

ETHN 100. Freshman Seminar: The Minority Experience (3 cr)

ETHN 400. Senior Seminar (3 cr)

**B. Methods (3 credit hours required of all majors; check departmental listings for prerequisites)**

ANTH 290. Fieldwork (1-6 cr)

ANTH 483. Advanced Field Methods (3 cr)

COMM 201. Intro to Research Methods in

Communication Studies (3 cr)

ENGL 200. Intro to English Studies (3 cr)

ENGL 270. Literary/Critical Theory (3 cr)

ENGL 471. Literary Criticism (3 cr)

ETHN 487. Community-based Research &

Evaluation (ANTH 486) (3 cr)

HIST 288. Intro to Historical Methods (3 cr)

SOCI 205. Intro to Social Research I (3 cr)

SOCI 407. Strategies of Social Research:

Qualitative Methods (3 cr)

PSYC 350. Research Methods & Data Analysis (3 cr)

**C. Comparative Courses (9 credit hours, minimum of 6 hours at 300 or 400 levels)**

ANTH 130. Anthropology of the Great Plains (3 cr)

ETHN 211. Intercultural Communication (COMM 211) (3 cr)

ETHN 212. Intro to Cultural Anthropology (ANTH 212) (3 cr)

ETHN 217. Nationality & Race Relations (SOCI 217) (3 cr)

ETHN 310. Psychology of Immigration (PSYC 310) (3 cr)

ETHN 330. Multicultural Education (TEAC 330) (3 cr)

ETHN 344. Ethnicity & Film (ENGL 344) (3 cr)

ETHN 356. Race & Ethnicity in the American West (HIST 356) (3 cr)

ETHN 425. Psychology of Racism (PSYC 425) (3 cr)

ETHN 445. Ethnic Literature (ENGL 445) (3 cr)

ETHN 448. Family Diversity (SOCI 448) (3 cr)

ETHN 481. Minority Groups (SOCI 481) (3 cr)

POLS 260. Problems in International Relations (3 cr)

### D. African American and African Studies

ETHN 150. African Culture & Civilization (HIST 150) (3 cr)

ETHN 200. Intro to African American Studies (3 cr)

ETHN 238. Blacks & the American Political System (POLS 238) (3 cr)

ETHN 244. African American Literature (ENGL 244) (3 cr)

ETHN 244A. Intro to African Literature (ENGL 244A) (3 cr)

ETHN 244B. Black Women Authors (ENGL 244B) (3 cr)

ETHN 244D. African-Caribbean Literature (ENGL 244D) (3 cr)

ETHN 244E. Early African American Literature (ENGL 244E) (3 cr)

ETHN 306. African American History: African Origins to 1877 (HIST 306) (3 cr)

ETHN 309. African American History: After 1877 (HIST 309) (3 cr)

ETHN 362. Peoples & Cultures of Africa (ANTH 362) (3 cr)

ETHN 437. African American & Racial Politics: 1932 to Present (HIST 437) (3 cr)

ETHN 440. The Black Family (3 cr)

ETHN 446. Black Social Movements (3 cr)

ETHN 456. Black/African American Women's History (HIST/WMNS 456) (3 cr)

ETHN 459. The Black West (HIST 459) (3 cr)

ETHN 460. Civil Rights Movement (HIST 460) (3 cr)

ETHN 485. Africa Since 1800 (HIST 485) (3 cr)

ETHN 486. History of South Africa (HIST 486) (3 cr)

MUNM 387. History of American Jazz (3 cr)

**E. Latino and Latin American Studies**

- ECON 323. Economic Development of Latin America (3 cr)  
 ETHN 171. Latin American Culture & Civilization (HIST 171) (3 cr)  
 ETHN 202. Intro to USA Latina/Latino Studies (3 cr)  
 ETHN 218. Chicanos in American Society (SOCI 218) (3 cr)  
 ETHN 245D. Chicana and/or Chicano Literature (ENGL 245D) (3 cr)  
 ETHN 350. People & Cultures of Native Latin America (ANTH 350) (3 cr)  
 ETHN 357. The History & Culture of the Mexican-American (HIST 357) (3 cr)  
 ETHN 370. Colonial Mexico (HIST 370) (3 cr)  
 ETHN 371. Modern Mexico (HIST 371) (3 cr)  
 GEOG 378. Geography of Latin America (3 cr)  
 HIST 471. Latin America & the Outside World (3 cr)  
 LAMS 311. Representative Spanish-American Authors I (SPAN 311) (3 cr)  
 LAMS 312. Representative Spanish-American Authors II (SPAN 312) (3 cr)  
 LAMS 331. Latin American Civilization (SPAN 331) (3 cr)  
 LAMS 459. Spanish-American Poetry (SPAN 459) (3 cr)  
 LAMS 460. Spanish-American Novel (SPAN 460) (3 cr)  
 LAMS 462. Spanish-American Short Story (SPAN 462) (3 cr)  
 LAMS 478. Pro-Seminar in Latin American Studies (ANTH, GEOG, HIST, POLS, SOCI 478/878) (3 cr)  
 POLS 277. Latin American Politics (3 cr)  
 POLS 365. The United States & Latin America (3 cr)  
 SPAN 463. 20th Century Spanish & Spanish-American Essay (3 cr)

**F. Native American Studies**

- ANTH 232. Intro to Prehistory (3 cr)  
 ANTH 363. Peoples & Cultures of the Arctic Regions (3 cr)  
 ANTH 419. Art & Anthropology of Native North Americans (3 cr)  
 ANTH 433. North American Archaeology (3 cr)  
 ANTH 434. Intro to Great Plains Archaeology (3 cr)  
 ENGL 245N. Native American Women Writers (3 cr)  
 ETHN 201. Intro to Native American Studies (3 cr)  
 ETHN 204 (204A). Native Language III (ANTH 204) (3 cr)  
 ETHN 205 (205A). Native Language IV (ANTH 205) (3 cr)  
 ETHN 241. Native American History (HIST 241) (3 cr)  
 ETHN 242. Native American Women (HIST/WMNS 242) (3 cr)  
 ETHN 245B. Native American Literature (ENGL 245B) (3 cr)  
 ETHN 350. People & Cultures of Native Latin America (ANTH 350) (3 cr)  
 ETHN 351. Indigenous Peoples of North America (ANTH 351) (3 cr)  
 ETHN 352. Indigenous Peoples of the Great Plains (ANTH 352) (3 cr)  
 ETHN 411. Indians in American Popular Culture (HIST 411) (3 cr)  
 ETHN 445E. Native American Literature (ENGL 445E) (3 cr)  
 ETHN 451. Contemporary Issues of Indigenous People in North America (ANTH 451) (3 cr)  
 ETHN 464. Native American History: Selected Topics (HIST 464) (3 cr)  
 ETHN 465. History of Plains Indians (HIST 465) (3 cr)  
 ETHN 468. Cultural History of Native America (HIST 468) (3 cr)

**G. Individualized Courses of Instruction**

- (ETHN 297, 299, 399H, 497, 499)

A total of 9 hours of individualized course work may count toward the major, but no more than 6 hours of one particular course will count toward the major. Consult with chief adviser regarding substitution of individualized course work toward major requirements (in Group C, D, E, or F).

**Program Assessment.** To assist in evaluating the program's effectiveness, each major will be asked to do the following before graduating: (1) submit a copy of a research paper, honors thesis, or other major project completed during the senior year; (2) participate in an exit interview or complete an exit survey.

Results of participation in these assessment activities will not affect a student's grades or graduation.

## Requirements for the Minor in Ethnic Studies

- 18 hours from the following courses (other courses may be used with the approval of the faculty adviser):

- ETHN 100. Freshman Seminar: The Minority Experience (3 cr)  
 ETHN 150. African Culture & Civilization (HIST 150) (3 cr)  
 ETHN 200. Intro to African American Studies (3 cr)  
 ETHN 201. Intro to Native American Studies (3 cr)  
 ETHN 202. Intro to USA Latina/Latino Studies (3 cr)  
 ETHN 211. Intercultural Communication (COMM 211) (3 cr)  
 ETHN 212. Intro to Cultural Anthropology (ANTH 212) (3 cr)  
 ETHN 217. Nationality & Race Relations (SOCI 217) (3 cr)  
 ETHN 218. Chicanos in American Society (SOCI 218) (3 cr)  
 ETHN 238. Blacks & the American Political System (POLS 238) (3 cr)  
 ETHN 242. Native American Women (HIST, WMNS 242) (3 cr)  
 ETHN 244. African American Literature (ENGL 244) (3 cr)  
 [ES][IS] ETHN 244A. Intro to African Literature (ENGL 244A) (3 cr)  
 ETHN 244B. Black Women Authors (ENGL 244B) (3 cr)  
 ETHN 244D. African-Caribbean Literature (ENGL 244D) (3 cr)  
 ETHN 244E. Early African American Literature (ENGL 244E) (3 cr)  
 ETHN 245A. Intro to Asian American Literature & Cultural (ENGL 245A) (3 cr)  
 ETHN 245B. Native American Literature (ENGL 245B) (3 cr)  
 ETHN 245D. Chicana and/or Chicano Literature (ENGL 245D) (3 cr)  
 ETHN 306. African American History: African Origins to 1877 (HIST 306) (3 cr)  
 ETHN 309. African-American History: 1877-Present (HIST 309) (3 cr)  
 ETHN 330. Multicultural Education (TEAC 330) (3 cr)  
 ETHN 344. Ethnicity & Film (ENGL 344) (3 cr)  
 ETHN 351. Indigenous Peoples of North America (ANTH 351) (3 cr)  
 ETHN 352. Indigenous Peoples of the Great Plains (ANTH 352) (3 cr)

ETHN 357. The History & Culture of the Mexican-American (HIST 357) (3 cr)  
 ETHN 362. People & Cultures of Africa (ANTH 362) (3 cr)

- ETHN 370. Colonial Mexico (HIST 370) (3 cr)  
 ETHN 371. Modern Mexico (HIST 371) (3 cr)  
 ETHN 400. Senior Seminar (3 cr)  
 ETHN 411. Indians in American Popular Culture (HIST 411) (3 cr)  
 ETHN 437. African American & Racial Politics: 1932-Present (HIST 437) (3 cr)

- ETHN 440. The Black Family (3 cr)  
 ETHN 445. Ethnic Literature (ENGL 445/845) (3 cr)  
 ETHN 446. Black Social Movements (3 cr)  
 ETHN 451. Contemporary Issues of Indigenous People in North America (ANTH 451) (3 cr)  
 ETHN 456. Black/African-American Women's History (HIST 456) (3 cr)  
 ETHN 459. The Black West (HIST 459) (3 cr)  
 ETHN 460. Civil Rights Movement (HIST 460) (3 cr)  
 ETHN 468. Cultural History of Native America (HIST 468) (3 cr)  
 ETHN 481. Minority Groups (SOCI 481) (3 cr)  
 ETHN 485. Africa Since 1800 (HIST 485) (3 cr)  
 ETHN 487. Community-based Research & Evaluation (ANTH 486) (3 cr)  
 MUNM 387. History of American Jazz (3 cr)

## Courses of Instruction (ETHN)

(ACE 8, 9) [ES] 100. Freshmen Seminar—The Minority Experience (3 cr) Lec. Open to freshmen only.

Introduction to the interdisciplinary study of American Indians, African Americans, Latinos and other racial minority groups in the United States.

[ES] 104. Native Language I (ANTH 104) (5 cr) Lec, lab. For course description, see ANTH 104.

A. Omaha I (ETHN 104A) (5 cr)

[ES] 105. Native Language II (ANTH 105) (5 cr) Lec, lab. Prereq: ANTH/ETHN 104.

For course description, see ANTH 105.

A. Omaha II (ANTH 105A) (5 cr) Prereq: ANTH/ETHN 104A.

[ES] 150. African Culture and Civilization (HIST 150) (3 cr) For course description, see HIST 150.

(ACE 9) [ES] 171. Latin American Culture and Civilization (HIST 171) (3 cr) For course description, see HIST 171.

[ES][IS] 189H. University Honors Seminar (3 cr) Prereq: Good standing in the University Honors Program or by invitation. *University Honors Seminar 189H is required of all students in the University Honors Program.* Topic varies.

198. Special Topics (1-4 cr, may be repeated for credit if the topic varies) Prereq: If required, will be published before the early registration period.

(ACE 8, 9) [ES][IS] 200. Introduction to African-American Studies (3 cr)

Origins, nature, scope, and relevance of research, theory, and social, political, and cultural institutions in African American Studies.

(ACE 8, 9) [ES][IS] 201. Introduction to Native American Studies (3 cr)

Origins, traditions, culture, spirituality and current issues of North America's indigenous populations. Diversity of tribal experiences and issues relevant for Native Nations both present and past.

(ACE 9) 202. Introduction to USA Latina/Latino Studies (3 cr) Lec 3.

Origins, traditions, culture, and current issues of Latina/Latino populations in the United States.

- [ES] 204. **Native Language III** (ANTH 204) (3 cr) Lec, lab. Prereq: ANTH/ETHN 105.  
For course description, see ANTH 204.
- A. **Omaha III** (ANTH 204A) (3 cr) Prereq: ANTH/ETHN 105A.
- [ES] 205. **Native Language IV** (ANTH 205) (3 cr) Lec, lab. Prereq: ANTH/ETHN 204.  
For course description, see ANTH 205.
- A. **Omaha IV** (ANTH 205A) (3 cr) Prereq: ANTH/ETHN 204A.
- 210. Accelerated 2nd Year Native Language** (ANTH 210) (6 cr) Lec 6. Prereq: ANTH/ETHN 105. *ANTH 210 is a continuation of ANTH 105.*  
For course description, see ANTH 210.
- A. **Accelerated 2nd Year Omaha** (ANTH 210A) (6 cr) Lec 6. Prereq: ANTH/ETHN 105A. *ANTH 210A is a continuation of ANTH 105A. A minimum of four outside-of-class activities (on weekends) and an approximate one-half hour meeting each week with the instructor (in a "one-on-one" situation) is required.*
- (ACE 9) [ES][IS] **211. Intercultural Communication** (COMM 211) (3 cr)  
For course description, see COMM 211.
- (ACE 6) [ES][IS] **212 [212c]. Introduction to Cultural Anthropology** (ANTH 212) (3 cr)  
For course description, see ANTH 212.
- (ACE 6, 9) [ES][IS] **217. Nationality and Race Relations** (SOCI 217) (3 cr) Prereq: 3 hrs sociology or related social sciences.  
For course description, see SOCI 217.
- [ES] **218. Chicanos in American Society** (SOCI 218) (3 cr)  
For course description, see SOCI 218.
- [ES][IS] **238. Blacks and the American Political System** (POLS 238) (3 cr)  
For course description, see POLS 238.
- (ACE 9) [ES] **241. Native American History** (HIST 241) (3 cr)  
For course description, see HIST 241.
- (ACE 9) [ES][IS] **242. Native American Women** (HIST, WMNS 242) (3 cr) Lec 3.  
For course description, see HIST 242.
- (ACE 5, 9) [ES][IS] **244. African-American Literature** (ENGL 244) (3 cr)  
For course description, see ENGL 244.
- (ACE 5, 9) [ES][IS] **244A. Introduction to African Literature** (ENGL 244A) (3 cr)  
For course description, see ENGL 244A.
- (ACE 5, 9) [ES][IS] **244B. Black Women Authors** (ENGL, WMNS 244B) (3 cr) Lec 3. *May not be offered every year.*  
For course description, see ENGL 244B.
- (ACE 5, 9) [ES][IS] **244D. African-Caribbean Literature** (ENGL 244D) (3 cr)  
For course description, see ENGL 244D.
- (ACE 5, 9) [ES][IS] **244E. Early African-American Literature** (ENGL 244E) (3 cr)  
For course description, see ENGL 244E.
- (ACE 5, 9) [ES][IS] **245A. Introduction to Asian-American Literature and Culture** (ENGL 245A) (3 cr) Lec 3.  
For course description, see ENGL 245A.
- (ACE 5, 9) [ES][IS] **245B. Native American Literature** (ENGL 245B) (3 cr)  
For course description, see ENGL 245B.
- (ACE 5, 9) [ES][IS] **245D. Chicana and/or Chicano Literature** (ENGL 245D) (3 cr)  
For course description, see ENGL 245D.
- 297. Experiential Learning in Ethnic Studies I** (1-12 cr, max 12) Ind. Prereq: Sophomore standing. *Pass/No Pass only. Prior arrangement with faculty member. Not open to seniors.*  
Non-classroom experience that has relevance to Ethnic Studies.
- 299. Independent Study in Ethnic Studies** (1-12 cr, max 12) Ind. Prereq: Sophomore standing. *Prior arrangement with faculty member. Not open to seniors.*  
Research or readings.
- [ES] **306. African American History: African Origins to 1877** (HIST 306) (3 cr) Prereq: Sophomore standing.  
For course description, see HIST 306.
- [ES] **309. African American History: After 1877** (HIST 309) (3 cr) Lec. Prereq: Sophomore standing.  
For course description, see HIST 309.
- [ES] **310. Psychology of Immigration** (PSYC 310) (3 cr) Prereq: PSYC 181 or permission.  
For course description, see PSYC 310.
- (ACE 9) [ES][IS] **330. Multicultural Education** (TEAC 330) (3 cr) Prereq: Sophomore standing.  
For course description, see TEAC 330.
- [IS][IS] **344. Ethnicity and Film** (ENGL 344) (3 cr) Lec 3.  
For course description, see ENGL 344.
- [IS] **347. African Architecture** (ARCH 347/547, AHIS 366) (3 cr) Prereq: Sophomore standing.  
For course description, see ARCH 347/547.
- 350. Peoples and Cultures of Native Latin America** (ANTH 350) (3 cr) Lec 3. Prereq: 6 hrs social science.  
For course description, see ANTH 350.
- [ES] **351. Indigenous Peoples of North America** (ANTH 351) (3 cr) Lec 3. Prereq: 3 hrs ANTH.  
For course description, see ANTH 351.
- [ES] **352. Indigenous Peoples of the Great Plains** (ANTH 352) (3 cr) Lec 3. Prereq: 3 hrs ANTH.  
For course description, see ANTH 352.
- [ES] **356. Race and Ethnicity in the American West** (HIST 356) (3 cr) Prereq: Sophomore standing or permission.  
For course description, see HIST 356.
- [ES] **357. History and Culture of the Mexican-American** (HIST 357) (3 cr) Prereq: Sophomore standing or permission.  
For course description, see HIST 357.
- [ES] **362. Peoples and Cultures of Africa** (ANTH 362) (3 cr) Lec 3. Prereq: 3 hrs ANTH.  
For course description, see ANTH 362.
- [ES] **370. Colonial Mexico** (HIST 370) (3 cr) Lec 3. Prereq: Sophomore standing. *HIST/ETHN 370 is a pre-1800 course.*  
For course description, see HIST 370.
- [ES] **371. Modern Mexico** (HIST 371) (3 cr) Lec 3. Prereq: Sophomore standing.  
For course description, see HIST 371.
- 398. Special Topics** (3-4 cr) Prereq: If required, will be published before the early registration period.  
This course will be used for a variety of different topics.
- 399H. Honors Course** (1-6 cr, max 6) Ind. Prereq: Candidate for degree with distinction or with high distinction or with highest distinction in the College of Arts and Sciences; good standing in the University Honors Program or by invitation. *Cannot be taken Pass/No Pass. Prior arrangement with faculty member.*
- (ACE 10) [IS] **400. Senior Seminar** (3 cr) Lec 3. Prereq: Junior standing; ETHN major or minor. *ETHN 400 is the capstone course for the ETHN major or minor.*  
Integration, synthesis, and exposure to current research and scholarship within the discipline of Ethnic Studies.
- [IS] **411. Indians in American Popular Culture** (HIST 411/811) (3 cr) Lec. Prereq: Junior standing.  
For course description, see HIST 411/811.
- [IS] **425. Psychology of Racism** (PSYC 425/825) (3 cr) Prereq: For psychology majors: PSYC 350. For non-psychology majors: any research methods course.  
For course description, see PSYC 425/825.
- [IS] **437. African Americans and Racial Politics: 1932 to the Present** (HIST 437/837) (3 cr) Lec. Prereq: Junior standing.  
For course description, see HIST 437/837.
- [IS] **440. The Black Family** (3 cr) Lec 3. Prereq: ETHN 200.  
Black family life. Social, political, and cultural rights of black families. Family secrets and stories, gender roles, issues of intimacy and equality in family relationships. The role of children and external factors that impact black family structures and patterns in Africa and the African Diaspora.
- [IS] **445. Ethnic Literature** (ENGL 445/845) (3 cr) Lec 3.  
For course description, see ENGL 445/845.
- 445B. African-American Literature** (ENGL 445B/845B) (3 cr) Lec 3.  
For course description, see ENGL 445B/845B.
- [IS] **445E. Native American Literature** (ENGL 445E/845E) (3 cr) Lec 3.  
For course description, see ENGL 445E/845E.
- [IS] **445K. African and/or African-American Literature** (ENGL 445K/845K) (3 cr) Lec 3.  
For course description, see ENGL 445K/845K.
- [IS] **446. Black Social Movements** (3 cr) Lec 3. Prereq: ETHN 200.  
Mass or popular black movements. Human rights and their political, cultural, and intellectual impact, historical continuity, and organization.
- [ES][IS] **448. Family Diversity** (SOCI 448/848) (3 cr) Prereq: 9 hrs sociology or related social sciences.  
For course description, see SOCI 448/848.
- [IS] **451. Contemporary Issues of Indigenous Peoples in North America** (ANTH 451/851) (3 cr) Lec 3. Prereq: ANTH 351 or 352.  
For course description, see ANTH 451/851.
- [IS] **456. Black and/or African-American Women's History** (HIST, WMNS 456/856) (3 cr) Lec. Prereq: Junior standing.  
For course description, see HIST 456/856.
- [IS] **459. The Black West** (HIST 459/859) (3 cr) Lec. Prereq: Junior standing.  
For course description, see HIST 459/859.
- 460. The Civil Rights Movement** (HIST 460/860) (3 cr) Lec. Prereq: Junior standing.  
For course description, see HIST 460/860.
- [IS] **464. Native American History: Selected Topics** (HIST 464/864) (3 cr) Prereq: Junior standing.  
For course description, see HIST 464/864.
- [IS] **465. History of Plains Indians** (HIST 465/865) (3 cr) Prereq: Junior standing or permission.  
For course description, see HIST 465/865.
- [IS] **468. Cultural History of Native America** (HIST 468/868) (3 cr) Prereq: Junior standing.  
For course description, see HIST 468/868.
- 474. African-Americans in the Jazz Age** (HIST 474/874) (3 cr) Lec 3. Prereq: Junior standing. *A basic understanding of United States history is recommended.*  
For course description, see HIST 474/874.
- 477. Indigenous Peoples of the World** (HIST 477/877) (3 cr) Lec 3. Prereq: Junior standing.  
For course description, see HIST 477/877.
- 481. Minority Groups** (SOCI 481/881) (3 cr) Prereq: 9 hrs sociology or related social sciences.  
For course description, see SOCI 481/881.
- [ES][IS] **485. Africa Since 1800** (HIST 485/885) (3 cr) Prereq: Junior standing or permission.  
For course description, see HIST 485/885.
- [ES] **486. History of South Africa** (HIST 486/886) (3 cr) Prereq: Junior standing or permission.  
For course description, see HIST 486/886.

[IS] 487. Community-Based Research and Evaluation (ANTH 486/886) (3 cr) Prereq: ANTH 212.  
For course description, see ANTH 486/886.

497. Experiential Learning in Ethnic Studies II (1-12 cr, max 12) Ind. Prereq: Junior standing. *Pass/No Pass only. Prior arrangement with faculty member.*  
Non-classroom experience that has relevance to Ethnic Studies.

498. Special Topics (3-4 cr) Prereq: Permission.  
Will be used for a variety of different topics.

499. Independent Study in Ethnic Studies (1-12 cr, max 12) Ind. Prereq: Junior standing. *Prior arrangement with faculty member.*  
Ethnic Studies research or readings.

## European Studies

**Coordinator and Chief Adviser:** Robert Shirer (modern languages), 1103 Oldfather

**Faculty:** Amedeo (geography), Balasubramanian (modern languages), Berger (history), Burnett (history), Cahan (history), Carr (modern languages), Dyer (political science), Horowitz (modern languages), Kleimola (history), A. H. Martinez (modern languages), Nickel (modern languages), Petr (economics), Saskova-Pierce (modern languages), Shirer (modern languages), Steinweis (history), Wishart (geography), V. Zlotnik (geology)

The major and minor programs in European Studies concentrate on European affairs and European culture with a broad historical perspective. The multidisciplinary program draws on the resources of a large number of departments in the College of Arts and Sciences and other colleges at UNL. This course of study is appropriate for students interested in both academic and non-academic careers. The program provides a flexible mechanism which enables students to develop a concentration (chronological, geographical, or disciplinary) in European Studies while simultaneously pursuing a major in one of the traditional academic disciplines, thus preparing for advanced work in such fields as economics, history, modern languages, philosophy, political science, or sociology that would emphasize European issues and problems. For students interested in non-academic careers, the program offers an opportunity to acquire the grounding in European-oriented courses that would be essential for government service, international business and finance, and work with international organizations both public and private with significant European interests.

The program is administered by the coordinator of the European Studies program. Interested students should consult with the chief adviser/coordinator who will assist in outlining a program of studies and offer information about appropriate special topics courses taught at UNL.

**Study Abroad.** Students completing the major are strongly encouraged to complete at least a semester on a UNL sanctioned Study Abroad program in Europe, to be chosen in consultation with the chief adviser.

## Requirements for the Major in European Studies

The major requires 35-36 hours of approved courses. All majors will complete a 14-15 hour core program, 6 hours of one foreign language at the 300 or 400 level, and 15 additional hours of distributed electives, with course selected in consultation with the adviser to form a coherent "area of concentration" (e.g., contemporary Europe, the European Community, "Slavic" or "Mediterranean" Europe).

**Program Assessment.** In order to assist the department in evaluating the effectiveness of its programs, majors will be required to maintain and assemble a portfolio to include evidence of foreign language ability, a copy of the research paper completed for the senior seminar, and a written student profile or exit interview with a faculty member. The undergraduate adviser will inform students of the scheduling and format of assessment activities.

Results of participation in this assessment activity will in no way affect a student's GPA or graduation.

**1. Core Courses:** Required of all students in the major program.

EURO 450. Senior Seminar (3 cr) *To be offered each fall.*

HIST 101. Western Civilization Since 1715 (3 cr)  
GEOG 372. European Landscapes & Cultures (3 cr)  
*Choose one of the following:*

POLS 271. West European Politics (3 cr)  
POLS 275. Post-communist Politics (3 cr)  
POLS 371. Politics of the European Union (3 cr)  
POLS 466. Pro-seminar in International Relations (3 cr) *(when topic is appropriate)*

*Choose one of the following:*

AHIS 341. European Art of the 19th Century (3 cr) *(sophomore standing)*

AHIS 346. European Art of the 20th Century (3 cr) *(sophomore standing)*

MODL 234D. Major Themes in World Literature (3 cr)

MUNM 276G. The Music Experience (3 cr)

PHIL 232. History of Philosophy (Modern) (3 cr)  
PHIL 333. History of Philosophy (19th Century) (3 cr)

PHIL 341. Contemporary Continental Philosophy (3 cr)

THEA 336. History of Theatre II (3 cr)

**2. Language requirement within the major.** 6 hours in one language at the 300 or 400 level:

CZEC 301 and 302

FREN 303 and 304, 307 and 308, 403 and 404

GERM 303 and 304, 307 and 308, 403 and 404

GREK 302, 371, 372

LATN 302, 303

RUSS 303 and 304

SPAN 300, 403 and 405

Students who complete at least a semester at a European university where the language of instruction is other than English are exempted from this requirement. They should, however, take those courses appropriate as preparation for their particular study abroad program. Six hours of transfer credit at the 300 or 400 level from the European university program will substitute for the language requirement hours in the major program.

**3. Electives.** 15 hours, including courses from at least two of the following areas: a) social sciences, b) history, c) arts and culture. The electives should be selected in consultation with the adviser so as to provide a coherent "area of concentration."

**NOTE:** Students must take 6 hours at the 400 level.

- If a course has been taken as a core course, it may not also meet Group 3 elective requirements within the major.

### A. Social Sciences

ANTH 438. Topics in Old World Prehistory (3 cr)  
ECON 321. Intro to International Economics (3 cr)  
*(Prereq: ECON 210 or 211)*

ECON 388. Comparative Economic Systems (3 cr)  
ECON 421. International Trade (3 cr)  
*(Prereq: ECON 210 or 211 and 212; 312)*

ECON 422. International Finance (3 cr)  
*(Prereq: 210 or 211 and 212)*

ECON 487. Economies in Transition (3 cr)  
*(Prereq: 210 or 211 and 212)*

GEOG 272. Geography of World Regions (3 cr)

POLS 108. Political Ideas (3 cr)

POLS 275. Post-communist Politics (3 cr)

POLS 371. Politics of the European Union (3 cr)

POLS 372. Russian Politics (3 cr)

POLS 383. Justice & the Good Life (3 cr)

POLS 384. Liberalism & Its Critics (3 cr)

POLS 398. Special Topics in European Politics

SOCI 455. History of Sociological Theory (3 cr)

### B. History

HIST 100. Western Civilization to 1715 (3 cr)

HIST 211. History of the Middle Ages (3 cr)

HIST 212. History of Early Modern Europe:

Renaissance to the French Revolution (3 cr)

HIST 221. Science in History (3 cr)

HIST 231. History of England: Stonehenge through the Glorious Revolution (3 cr)

HIST 232. History of England Since the Glorious Revolution (3 cr)

HIST 261. Russia to the Era of Catherine the Great (3 cr)

HIST 262. Russia: The 19th & 20th Centuries (3 cr)

HIST 301. Preindustrial Europe (3 cr)

HIST 321. The Age of the Renaissance & Reformation (3 cr)

HIST 322. The Age of the Baroque (3 cr)

HIST 323. Europe During the Old Regime (3 cr)

HIST 325. France Since the French Revolution (3 cr)

HIST 328. History of Germany: 1914 to the Present (3 cr)

HIST 330. Contemporary Europe (3 cr)

HIST 338. War & Peace in Europe: 1914 to the Present (3 cr)

HIST 362. Eastern Europe & the Balkans Since 1815 (3 cr)

HIST 414. Medieval Culture (3 cr)

HIST 420. The Italian Renaissance (3 cr)

HIST 422. The Scientific Revolution (3 cr)

HIST 423. The European Enlightenment (3 cr)

HIST 424. European Social & Cultural History Since 1815 (3 cr)

HIST 429. History of Fascism in Europe (3 cr)

HIST 431. Medieval England (3 cr)

HIST 432. England: Reformation to Revolution, 1530-1660 (3 cr)

HIST 433. England: Restoration to 1789 (3 cr)

HIST 434. England in the Victorian Age (3 cr)

HIST 435. 20th Century England (3 cr)

HIST 461. The Russian Revolution (3 cr)

HIST 462. Recent Russia (3 cr)

**C. Arts and Culture**

- AHIS 216. Medieval Art (3 cr)  
 AHIS 221. Italian Renaissance Art (3 cr)  
 AHIS 226. Northern Renaissance Art (3 cr)  
 AHIS 231. Baroque Art (3 cr)  
 AHIS 318. Late Medieval Art in Europe (3 cr)  
 AHIS 341. European Art of the 19th Century (3 cr)  
 AHIS 346. European Art of the 20th Century (3 cr)  
 AHIS 411. Classical Architecture (3 cr)  
 CLAS 233. Science in the Classical World (3 cr)  
 ENGL 230. English Authors to 1800 (3 cr)  
 ENGL 231. English Authors after 1800 (3 cr)  
 ENGL 342A. Irish Literature (3 cr)  
 FREN 282. French Literature in Translation I (3 cr)  
 FREN 301. Representative Authors I (3 cr)  
 FREN 302. Representative Authors II (3 cr)  
 FREN 321. French Civilization I (3 cr)  
 FREN 322. French Civilization II (3 cr)  
 FREN 422. Topics in French Civilization (3 cr)  
 FREN 445. 17th Century I (3 cr)  
 FREN 446. 17th Century II (3 cr)  
 FREN 449. 18th Century I (3 cr)  
 FREN 450. 18th Century II (3 cr)  
 FREN 453. 19th Century I (3 cr)  
 FREN 454. 19th Century II (3 cr)  
 FREN 457. 20th Century I (3 cr)  
 FREN 458. 20th Century II (3 cr)  
 GERM 282. German Literature in Translation I (3 cr)  
 GERM 301. Representative Authors I (3 cr)  
 GERM 302. Representative Authors II (3 cr)  
 GERM 321. German Civilization I (3 cr)  
 GERM 322. German Civilization II (3 cr)  
 GERM 445. 16th & 17th Century German Literature (3 cr)  
 GERM 447. 18th Century Literature (3 cr)  
 GERM 448. Romanticism (3 cr)  
 GERM 449. Survey of 19th Century German Literature I (3 cr)  
 GERM 450. Survey of 19th Century German Literature II (3 cr)  
 GERM 451. From Naturalism to Expressionism (3 cr)  
 GERM 452. From the Weimar Republic into Exile (3 cr)  
 GERM 454. German Literature & Philosophy (3 cr)  
 GERM 455. Postwar German Literature I: The Literature of West Germany, Austria, & Switzerland (3 cr)  
 GERM 459. Works of Goethe & Schiller (3 cr)  
 GERM 460. Goethe's Faust (3 cr)  
 MODL 234D. Major Themes in World Literature (3 cr)  
 MUNM 350. The Great Composer (3 cr)  
 PHIL 231. History of Philosophy (Ancient) (3 cr)  
 PHIL 232. History of Philosophy (Modern) (3 cr)  
 PHIL 333. History of Philosophy (19th Century) (3 cr)  
 PHIL 341. Contemporary Continental Philosophy (3 cr)  
 PHIL 460. History of Modern Philosophy (3 cr)  
 PHIL 471. Kant (3 cr)  
 RUSS 301. Representative Authors I (3 cr)  
 RUSS 302. Representative Authors II (3 cr)  
 RUSS 398. Special Topics in Russian (3 cr)  
 RUSS 441. The Russian Novel (3 cr)  
 RUSS 442. Russian Poetry (3 cr)  
 RUSS 482. Russian Literature in Translation I (3 cr)  
 RUSS 483. Russian Literature in Translation II (3 cr)  
 SPAN 314. Representative Authors of Spain I (3 cr)  
 SPAN 315. Representative Authors of Spain II (3 cr)  
 SPAN 321. Spanish Civilization (3 cr)  
 SPAN 441. Spanish Golden Age Poetry (3 cr)  
 SPAN 442. Spanish Golden Age Prose (3 cr)  
 SPAN 445. Spanish Golden Age Drama (3 cr)  
 SPAN 453. 19th Century Spanish Literature (3 cr)  
 SPAN 456. 20th Century Spanish Poetry (3 cr)  
 SPAN 457. 20th Century Spanish Narrative (3 cr)

- SPAN 458. 20th Century Spanish Drama (3 cr)  
 SPAN 473. Cervantes (3 cr)  
 THEA 335. History of Theatre I (3 cr)  
 THEA 336. History of Theatre II (3 cr)  
 THEA 440. Continental Drama (3 cr)

**Requirements for the Minor in European Studies**

- 18 hours *Core courses required of all minors (8-9 hrs):*

- HIST 101 (3 cr)  
 POLS 271, 275, 371, or 466 or GEOG 372  
 AHIS 341 or 346 (3 cr ea) or MODL 234D (3 cr) or PHIL 333

Electives: 9 hours selected from at least two of the areas on the list of electives for the major; no more than 6 hours in any one area.

**Courses for Instruction (EURO)**

[IS] 450. Senior Seminar (3 cr) Prereq: 18 hours in the major or permission.

Treats a major topic in its European dimensions and integrates the insights of the social sciences with a historical, cultural, and artistic perspective. Includes preparation of a research project or paper on an aspect of the topic.

**Film Studies**

**Coordinator:** Professor Gwendolyn Audrey Foster, 224 Andrews Hall

**Chief Adviser:** Fran Kaye, 123A Andrews Hall

**Advising Center Staff:** Jan Jarvis

**Professors:** Abel (English), Dixon (English), Dreher (English), Foster (English), Fuller (art & art history), Japp (communication studies), Mamiya (art & art history), Potter (philosophy), Renaud (broadcasting)

**Mary Riepma Ross Film Theatre:** Ladely

The film studies program is housed in the Department of English. The program is centered on a core curriculum of four courses in the history of film, film genre, film directors, as well as film theory and criticism. To these core courses are added related courses, particularly those that integrate the study of moving image culture with rhetoric, philosophy, literary criticism, ethnic literature and visual cultures of all types. The program is designed for students who wish to ultimately work in academic film studies, and also for students who wish to understand film better as an art form, as popular culture, and as a major medium of communication.

**Requirements for the Major in Film Studies**

The major requires 30 hours of approved courses, with four courses serving as core courses for the major: ENGL 213E Film History, ENGL 219 Film Genre, ENGL 239 Film Directors, and ENGL 373 Film Theory and Criticism. Students must also take ENGL 487 (English Capstone Experience) to complete their course work for the major.

In addition to these required 15 hours of course work, 6 additional hours must be taken from Group A (see below); and 9 hours must be taken from Group B (see below).

Of the 30 hours, 12 hours must be taken at the 300 or 400 level, of which at least 6 hours must be taken at the 400 level. The general education core and electives will be those standard for the College of Arts and Sciences.

In addition, Film Studies majors must also take one of the following minors:

**Anthropology:** Plan A/18 hrs

**Art:** Plan A/18 hrs

**Art History:** Plan A/20 hrs

**Classics:** Plan A/18 hrs

**Communication Studies:** Plan A/18 hrs

**English:** Plan A/18 hrs

**Ethnic Studies:** Plan A/18 hrs

**History:** Plan A/18 hrs

**Philosophy:** Plan A/18 hrs

**Theatre Arts:** Plan A/18 hrs

**Women and Gender Studies:** Plan A/18 hrs

Other minors may be approved with permission of the English Department Advising Center.

All students enrolling in courses offered by the Department of Broadcasting must have at least a 2.75 cumulative GPA. In addition, students wishing to enroll in Department of Broadcasting courses but who are not majoring in broadcasting must have the written approval of the instructor. Courses in the Department of Broadcasting taken to meet either the major or minor in film studies cannot be counted toward completion of the major in broadcasting. Other departments may have different policies in this matter; students are advised to check with the departments in question to determine their policy in this area.

**Requirements for the Minor in Film Studies**

The minor requires 18 hours, including at least 12 hours from courses listed in Group A. Students are directed to course listings in Group B for additional course offerings in the film studies minor. No more than 12 hours can be taken in any one department, not counting the core courses.

All students enrolling in courses offered by the Department of Broadcasting must have at least a 2.75 cumulative GPA. In addition, students wishing to enroll in Department of Broadcasting courses but who are not majoring in broadcasting must have the written approval of the instructor. Courses in the Department of Broadcasting taken to meet either the major or minor in film studies cannot be counted toward completion of the major in broadcasting. Other departments may have different policies in this matter; students are advised to check with the departments in question to determine their policy in this area.

**Group A****Broadcasting**

BRDC 226. Intro to Broadcasting (COMM 226) (3 cr)

BRDC 497. Independent Study in Broadcasting (3 cr)

**English**

ENGL 209. Film: The Documentary (3 cr)

ENGL 212. Intro to Lesbian & Gay Literature (3 cr)

ENGL 213E. Intro to Film History (3 cr)

- ENGL 219. Film Genre (3 cr)  
 ENGL 230A. Shakespeare (3 cr)  
 ENGL 239. Film Directors (3 cr)  
 ENGL 239B. Women Filmmakers (3 cr)  
 ENGL 259A. Writing for Film & TV (3 cr)  
 ENGL 269. Film Periods (3 cr)  
 ENGL 270. Literary/Critical Theory (3 cr)  
 ENGL 282. Literature & Other Arts (3 cr)  
 ENGL 283. Contemporary Culture (3 cr)  
 ENGL 315B. Women in Popular Culture (3 cr)  
 ENGL 349. National Cinemas (3 cr)  
 ENGL 373. Film Theory & Criticism (3 cr)  
 ENGL 413/813. Film (3 cr)  
 ENGL 439/839. Film Directors (3 cr)  
 ENGL 459/859. Writing for Film & TV (3 cr)  
 ENGL 487. English Capstone Experience (3 cr)

**Music**

- MUNM 275. Music for Film (3 cr)  
 MUNM 387. History of American Jazz (3 cr)

**Theatre Arts**

- THEA 112G. Intro to Theatre (3 cr)

**Group B****Art and Art History**

- AHIS 388. Arts of the 20th Century 1900-1945 (MUNM, THEA 388) (3 cr)  
 AHIS 389. Arts of the 20th Century 1945-Present (MUNM, THEA 389) (3 cr)  
 AHIS 471/871. History of Photography (3 cr)  
 AHIS 472/872. Photography Since 1960 (3 cr)

**Communication Studies**

- COMM 198. Special Topics (3 cr)  
 COMM 200. Intro to Communication Studies (3 cr)  
 COMM 201. Intro to Research Methods in Communication Studies (3 cr)  
 COMM 211. Intercultural Communication (ETHN 211) (3 cr)  
 COMM 280. Communication & Popular Culture (3 cr)  
 COMM 380. Gender & Communication (3 cr)  
 COMM 398. Special Topics (3 cr)  
 COMM 399. Independent Study (3 cr)  
 COMM 427/827. Instructional Communication (TEAC 429) (3 cr)  
 COMM 452/852. Communication & Culture (3 cr)  
 COMM 498. Special Topics (3 cr)

**English**

- ENGL 244B. Black Women Authors (ETHN 244B) (3 cr)  
 ENGL 245B. Native American Literature (ETHN 245B) (3 cr)  
 ENGL 245D. Chicana &/or Chicano Literature (ETHN 245D)  
 ENGL 275. Intro to Rhetorical Theory (3 cr)  
 ENGL 344. Ethnicity in Film (ETHN 344) (3 cr)  
 ENGL 406/806. Genre (3 cr)  
 ENGL 445/845. Ethnic Literature (ETHN 445/845) (3 cr)  
 ENGL 471. Literary Criticism & Theory (3 cr)  
 ENGL 475. Rhetoric (3 cr)  
 ENGL 475A. Rhetorical Theory: Rhetoric of Women Writers  
 ENGL 478. Electronic Texts: Theory & Practice (3 cr)

**Philosophy**

- PHIL 101. Intro to Philosophy (3 cr)  
 PHIL 106. Philosophy & Current Issues (3 cr)  
 PHIL 218. Philosophy of Feminism (WMNS 218) (3 cr)  
 PHIL 327. Aesthetics (3 cr)

## Geography

- Program Chair:** Sunil Narumalani, 302 Hardin Hall  
**Professors:** Amedeo, Archer, Dewey, Lavin, Lawson, Lonsdale (emeritus), Merchant, Narumalani, Rundquist, Stoddard (emeritus), Wilhite, Wishart  
**Associate Professor:** Joeckel  
**Assistant Professor:** Hanson  
**Research Assistant Professors:** Knutson, Wardlow

The program of geography offers a wide variety of courses leading to the bachelor of arts and bachelor of science degrees in geography. The objectives of these programs are: 1) to support the goals of a broad liberal education by increasing awareness of the spatial, regional, and environmental aspects of the earth and its peoples; and 2) to provide a specialized knowledge of environmental processes, human-environment relations, American and foreign areas and cultures, and geographic techniques such as cartography, remote sensing and geographic information analysis. An education in geography prepares students for careers in government agencies (e.g., US Census Bureau, Defense Mapping Agency, as well as those involved with foreign service, land management, state tourism, health care delivery systems, environmental assessment, transportation development, land use planning, air traffic control, GIS and cartographic analysis) and a wide variety of businesses, particularly those concerned with environmental mapping, geographic information systems, and planning. A geography major also prepares students for graduate-level degrees in geography, law (especially environmental law), international business, urban and regional planning, and teaching at all levels.

## Major in Geography

The major in geography consists of seven mandatory courses with a common core in human-environment relations. Students should begin their programs with introductory physical and human courses, then move to courses dealing with environmental issues, world regions, and courses in techniques of acquiring and displaying geographic data. An undergraduate seminar which covers historical and philosophical aspects of geography as well as practical matters such as jobs and graduate schools, completes the set of mandatory courses. Beyond this core of required courses are nine hours of electives.

**Undergraduate Adviser:** David Wishart, 320 Hardin Hall, (472-3576)

## Requirements for the Major in Geography

The major entails a total of 30 hours distributed as follows:

	Hours
GEOG 140 Introductory Human Geography or GEOG 120 Economic Geography .....	3
GEOG 155 Elements of Physical Geography .....	4
GEOG 181 Quality of the Environment .....	3
GEOG 272 World Regions .....	3
Techniques (see listing), with at least 3 hrs numbered 400 or above.....	6
GEOG 402 Senior Seminar.....	2
Elective Geography courses.....	9

Of the total 30 hours, 14 hours must be numbered 300 or above. Students wishing to combine a geography major with other majors environmental studies, for example, should see the respective advisers.

**Program Assessment.** In order to assist the department in evaluating the effectiveness of its programs, majors will be required to complete written and oral examinations in the Senior Seminar, GEOG 402, over knowledge in all components of the major, as well as over more detailed knowledge in the student's area of focus. Students will be informed of the scheduling and format of assessment exams in the Senior Seminar. Students will also be given exit interviews prior to graduation to gather their views on the effectiveness of the major.

Results of participation in this assessment activity will in no way affect a student's GPA or graduation.

## Requirements for the Minor in Geography

- 18 hours, including 10 hours in courses numbered 300 or above.

**Graduate Work.** The advanced degrees of master of arts and doctor of philosophy in geography are offered. For details of these programs see the *Graduate Studies Bulletin*.

## Courses of Instruction (GEOG)

### Human-Economic Geography

- [ES][IS] 120. **Introductory Economic Geography** (3 cr)  
 Basic factors influencing the location of economic activity. Influence of space and location on the evolution and development of economic systems. World and regional patterns of economic activities.

- (ACE 9) [ES][IS] 140. **Introductory Human Geography** (3 cr)  
*Students who have previously taken GEOG 100 may not receive credit for GEOG 140.*  
 Human populations, cultures, and landscapes, with particular attention to human-environment relations and global interconnections.

- (ACE 6, 9) [ES][IS] 181. **Quality of the Environment** (3 cr)  
 Analysis of human's role in altering the quality of the environment through their impact on eco-health, transformation of the landscape, and spatial organization and behavior.

- (ACE 7, 9) [ES][IS] 200. **Landscape and Environmental Appreciation** (HORT, LARC 200) (3 cr II) Lec 2, rct 1.  
 For course description, see HORT 200.

- (ACE 6) [ES][IS] 283. **Space, the Environment and You** (3 cr)  
 Experiments to help individuals develop awareness of the extent to which their feelings and behavior are influenced by the spatial and environmental dimensions of their surroundings.

- [ES] 334. **Historical Geography of the Great Plains** (3 cr)  
 Traces the sequence of the human occupancy of the Great Plains from prehistoric times to the present. Focus on the changing perception and utilization of the Great Plains environment, leading to the emergence of a distinctive contemporary region.

- (ACE 6) [ES][IS] 361. **Urban Geography** (3 cr)  
 Geography of cities and metropolitan areas of the past, present, and future. Spatial structures of urban settlements in North America and elsewhere examined both theoretically and descriptively.

- 406/806. Spatial and Environmental Influences in Social Systems** (3 cr)  
 How space, spatial structure, and spatially oriented behavior operate in social systems, emphasizing their influence on interpersonal communication and/or social exchange.

**431/831. Cultural Geography (3 cr)**

The history of cultural geography from von Humboldt through Carl Sauer to the 'new' cultural geographies of Don Mitchell, Gillian Rose and Noel Castree. The current theoretical debates of feminism, post-structuralism, post-colonialism and environmentalism, and the influences of literary and cultural studies in the development of cultural geography and the various methodologies involved.

**435/835. Cultural Survival: Indigenous People's Rights (3 cr)** Lec 3. Threats against indigenous peoples lands, resources and cultural patrimony, languages and knowledge systems more than 500 years after Columbus instigated European colonialism, creating the first global world order. The responses of indigenous peoples to the imposition of Western dominated economic and political systems. Land rights, economic development, and women's rights from the perspective of the different indigenous communities around the world.

**[IS] 444/844. Geo-demographics and GIS (3 cr)** Lec, lab.

Geo-demographic and GIS analysis, interpretation, and mapping of geographical patterns of population size, population composition, and population change. Theoretical and applied investigation of geo-demographic issues involving marketing research, environmental impact analysis, public facilities planning, public health provision, and small-area population change forecasting. Particular attention to GIS use of TIGER and small-area Census data.

**[IS] 447/847. Political Geography (3 cr)**

Importance of factors of a physical, economic, and human character in political development at local to global scales; international geopolitical aspects of environment, territoriality, core areas, capitals, and boundaries; national geographical patterns of voting, representation, public administration and public policy.

**448/848. Pro-seminar in International Relations I (AECN 467; ANTH, HIST 479/879; ECON, POLS, SOCI 466/866) (3 cr)** Prereq: Permission. Open to students with an interest in international relations.

For course description, see POLS 466/866.

## Physical Geography

**(ACE 4) [ES][IS] 155. Elements of Physical Geography (4 cr)** Lec 3, lab 1. Students who earn credit toward the degree in GEOG 155 may not earn credit toward the degree in GEOG 150 or in the combination of GEOG 150 and 152.

Investigation of the basic elements of the physical environment of the earth and its atmosphere. Includes atmospheric processes, temperature distributions, weather systems, severe weather, climates, water balance, vegetation and soil distributions, landforms and their processes, and natural hazards. Modifying influences that humans have on the physical environment and atmosphere examined.

**[ES][IS] 281. Introduction to Water Science (NRES, WATS 281) (3 cr II)** Prereq: High school chemistry or one semester college chemistry; one course in geology or physical geography or soil. For course description, see WATS 281.

**305. Geography of Agriculture (AGRO, HORT 305) (3 cr II)** Lec 2, lab 3. Prereq: AGRO 131 or 153 or HORT 130 or GEOG 140 or 155 or equivalent.

For course description, see AGRO 305.

**308. Biogeography (GEOL, NRES 308) (3 cr)** Lec 3. Prereq: GEOG 155 or BIOS 101 and 101L or GEOL 101. *Biogeography (GEOL/GEOL/NRES 308) is a highly interdisciplinary science, relying heavily on ecology, geological science, and climatology. It is global in scope and offers the latest knowledge in understanding organism distributions, and the factors that determine those distributions.*

Introduction to the basic concepts of biogeography, the study of distributions of plants and animals, both past and present.

**408/808. Microclimate: The Biological Environment (AGRO, HORT, METR, NRES 408/808; WATS 408) (3 cr I)** Prereq: Junior standing, MATH 106 or equivalent, 5 hrs physics, major in any of the physical or biological sciences or engineering; or permission.

For course description, see NRES 408/808.

**450/850. Climate and Society (AGRO, METR 450/850; NRES 452/852) (3 cr)** Prereq: METR 200 or 351 or equivalent, or permission. Offered spring semester of even-numbered calendar years. For course description, see NRES 452/852.

**[IS] 467/867. Great Plains Field Pedology (AGRO, NRES 477/877; SOIL 477) (4 cr II)** Lec 3. Lab. Prereq: AGRO/SOIL 153 or permission. For course description, see NRES 477/877.

**469/869. Bio-atmospheric Instrumentation (AGRO, MSYM, METR 469/869; HORT 407/807) (3 cr I)** Lec 2/lab 1. Prereq: Junior standing; MATH 106; 4 hrs physics; physical or biological science major. Offered fall semester of odd-numbered calendar years.

For course description, see NRES 469/869.

**481/881. Water Resources Seminar (AGRO 481/881; GEOL, NRES 415/815) (1 cr)** Prereq: Junior standing or above, or permission. For course description, see AGRO 481/881.

## Regional Geography

**[ES] 170. Introduction to Great Plains Studies (ANTH, GPSP, NRES, SOCI 170) (3 cr)** Required for Great Plains Studies majors and minors.

For course description, see GPSP 170.

**[ES] 271. Geography of the United States (3 cr)**

Introduction to the regional geography of the United States. Attention to the significance of location, advantages and limitations of the natural environment, population distribution, and economic development considered regionally.

**(ACE 9) [ES] 272. Geography of World Regions (3 cr)**

Appraisal of the interaction between the physical environment, the human resources, and economic activities for the major regions of the world. Application of fundamental geographical concepts to regional analysis.

**370. Geography of Nebraska (2-3 cr)**

Survey of the physical and cultural features of the geography of Nebraska as related to the changing patterns in the human occupancy of the geographic regions of the state.

**[ES] 372. European Landscapes and Cultures (3 cr)**

The physical and human geographies of Europe. Population migrations, landscape change, and diversity of culture in Europe and selected sub-regions of Europe.

**[ES][IS] 375. Geography of Asia (3 cr)**

Patterns of physical features, population, and economic activities and other cultural aspects. Attention to India, China, and Japan.

**[ES][IS] 378. Geography of Latin America (3 cr)**

Introduction to the geography of Mexico, Central America, West Indies, and South America. Advantage and limitations of the natural environment, population distribution, and economic development are considered regionally.

**[IS] 400/800. Seminar in Great Plains Studies (GPSP, HIST 400/800) (3 cr)** Prereq: A course in the study of the Great Plains. GPSP/GEOG/HIST 400 is required for a GPSP major or minor.

For course description, see GPSP 400.

**[IS] 478/878. Pro-seminar in Latin American Studies (LAMS 478; ANTH, EDPS, HIST, MODL, POLS, SOCI 478/878) (3 cr, max 6)** Prereq: Junior standing and permission. *Topical seminar required for all Latin American Studies majors.*

## Techniques

**[IS] 217. Mapping Science in the 21st Century (3 cr)** Lec, lab. The weekly labs in GEOG 217 provide practical experience. GEOG 217 provides background needed for advanced courses in cartography (GEOG 317), remote sensing (GEOG/NRES 418), and GIS (GEOG/NRES 312 and 412).

Introduction to modern mapping sciences. Interpret and use both traditional and digital maps. Fundamentals of thematic mapping, topographic map analysis, interpretation of aerial and satellite imagery, principles of geographic information systems (GIS), fundamentals of the global positioning (GPS), and mapping on the Internet.

**312. Introduction to Geospatial Information Sciences**

(NRES 312) (3 cr II) Lec 2, lab 2. Prereq: Junior standing; basic computer skills (spreadsheets, word processors, data and file management).

For course description, see NRES 312.

**317. Cartography I: Introduction to Cartography (4 cr)** Lec 2, lab 4. Prereq: 6 hrs geography.

Introduction to maps and mapping with emphasis on applied and theoretical considerations in map design and construction. Students create computer maps from specifications of instructor. Opportunity to actively participate in the technical processes of data collection, cartographic design, and construction normally associated with the actual production of maps.

**412/812. Introduction to Geographic Information Systems**

(NRES 412/812) (4 cr) Lec 3, lab 2. *Lab exercises provide experience with GIS software.*

Introduction to conceptual foundations and applications of computer-based geographic information systems (GIS). GIS database development, spatial data analysis, spatial modeling, GIS implementation and administration.

**414/814. Quantitative Methods in Geography (3 cr)** Prereq: STAT 218 or 380 and 6 hrs of geography.

Introduction to quantitative techniques utilized in geographic research. Fundamental statistical and mathematical techniques used in analyzing spatial relationships examined.

**415/815. Introduction to Computer Mapping (3 cr)** Lec 2, lab 2. Prereq: GEOG 317.

Introduction to the tools, techniques, and analytical uses of computer mapping. Programming necessary for producing own computer mapping programs.

**417/817. Cartography II: Electronic Atlas Design and Production (3 cr)** Lec 2, lab 2. Prereq: GEOG 317 or permission.

Computer-map design and production for the purpose of assembling an environmental electronic atlas, using advanced computer hardware and software. Extensive discussions and demonstrations on content, design, and methods used in computer mapping.

**418/818. Introduction to Remote Sensing (NRES 418/818) (4 cr)** Lec 3, lab 2. Prereq: 9 hrs earth science or natural resource sciences including GEOG 150 and 152, or 155.

Introduction to remote sensing of the earth from aerial and satellite platforms. Aerial photography, multispectral scanning, thermal imaging and microwave remote sensing techniques. Physical foundations of remote sensing using electromagnetic energy, energy-matter interactions, techniques employed in data acquisition and methods of image analysis. Weekly laboratory provides practical experience in visual and digital interpretation of aerial photography, satellite imagery, thermal and radar imagery. Applications in geographic, agricultural, environmental and natural resources analyses.

**419/819. Applications of Remote Sensing in Agriculture and Natural Resources (GEOL, AGRO 419/819; NRES 420/820) (4 cr)** Lec 3, lab 2. Prereq: GEOG/NRES 418/818 or permission.

Introduction to the practical uses of remote electromagnetic sensing in dealing with agricultural and water-resources issues.

**420/820. Digital Image Analysis of Remote Sensing Data (4 cr)** Lec 3, lab 2. Prereq: GEOG 418/818 and GEOG 419/819; or equivalent.

Principles and methods of digital image processing of remotely sensed data. The biophysical basis of remote sensing and the various sensor systems typically used for monitoring terrestrial and aquatic environments. Algorithms discussed for the pre-processing, enhancement, classification and mapping of digital data for agricultural, urban, geological, environmental, and natural resource management problems.

**421/821. Field Techniques in Remote Sensing (NRES 421/821) (3 cr II)** Lec 2, lab. Prereq: NRES 418/818.

For course description, see NRES 421/821.

**422/822. Advanced Techniques in Geographic Information Systems (4 cr)** Lec 3, lab 2. Prereq: GEOG 412/812; or equivalent, or permission.

Vector and quadtree data structures, use of relational database management systems, topologically structured databases, query languages, digital terrain modeling, advanced data analysis methods and research issues in GIS. Extensive practical experience with the current GIS software.

**425/825. Scientific Visualization in Cartography** (4 cr) Lec 2, lab 3. Prereq: GEOG 317 and either 415 or 417, or permission. Explores cartographic applications of computer animation and multimedia for the dual purposes of assisting visual thinking in map-oriented research and data exploration, and in communicating geographic ideas to others.

**483/883. Cognitive Processes in Map Comprehension and Use** (3 cr) Lec 3. Prereq: GEOG 317 and 417/817. How cognitive processes help individuals to comprehend the spatial circumstances or arenas they confront when carrying out their daily activities. Awareness of space, spatial knowing, formation of cognitive maps, importance of spatial images in negotiation of surroundings, and the relationship of cognitive maps to orientation and wayfinding.

## Philosophy

**402. Undergraduate Seminar** (2 cr) Prereq: Open to juniors and seniors. Introduction to contemporary philosophy of geography, bibliography, and the design of geographic research.

## Special Topics

- 198. Special Topics in Geography** (1-3 cr) Offered from time to time by faculty members who wish to examine current problems in geography. May take a variety of forms including the freshman seminar and the minicourse.
- 398. Special Topics in Geography** (1-24 cr) Prereq: Permission. Selected topic possessing areal implications.
- 498/898. Advanced Special Problems** (1-24 cr) Prereq: Topic varies, see course description or registration guide.

## Independent Study

- 399. Independent Study in Geography** (1-24 cr) Prereq: Permission.
- 399H. Honors Course** (1-4 cr) Prereq: Open to candidates for degrees with distinction, with high distinction, and with highest distinction in the College of Arts and Sciences and to seniors and especially to qualified juniors, with the consent of the instructor.
- 497/897. Internship in Geography** (1-6 cr) Prereq: Permission. Applying geographic training with on-the-job learning.
- 899. Masters Thesis** (6-10 cr)

Refer to the Graduate Bulletin for 900-level courses.

## Geosciences

**Chair:** David Watkins, 214 Bessey  
**Professors:** Fielding, Fritz, Goble, Grew, Harwood, Hunt, Lawson, Loope, Oglesby, Pederson, Watkins, Zlotnik  
**Associate Professors:** Anderson, Frank, Holmes, Hu, Joeckel, Kettler, Linters, Rack, Rowe  
**Assistant Professors:** Bathke, Houston, Secord, Wang, Weber

The Department of Geosciences offers a variety of courses leading to the bachelor of arts and bachelor of science degrees in geology and the bachelor of science degree in meteorology-climatology.

**Graduate Work.** The Department of Geosciences offers the master of sciences, and doctor of philosophy degrees. For details see the Graduate Studies Bulletin.

## Major in Geology

The Department of Geosciences offers both the bachelor of science and the bachelor of arts degrees in geology. The bachelor of science program is designed for those who expect to continue in graduate work and become professional geoscientists. Undergraduate training in geology is beneficial in many other fields such as teaching at the precollege level, urban planning, law, civil engineering, environmental studies, and museum work. Students preparing for these or similar areas are advised to take the bachelor of arts program, which is strong in fundamental geology but does not provide the ancillary requirements for admission for most graduate study in geology.

**Pass/No Pass.** Students majoring in geology may not take major courses for Pass/No Pass credit (possible exceptions are independent study and hours in excess of those required for the major). Majors may take up to 6 hours Pass/No Pass in their minor(s), subject to the approval of the department(s) granting the minor(s). Students minoring in geology may take up to 6 hours Pass/No Pass subject to the approval of the department granting the major. To secure the necessary approval, students may obtain request forms from the Arts & Sciences Advising Center, 107 Oldfather Hall.

**Undergraduate Adviser:** Tracy D. Frank, 223 Bessey Hall (472-9799)

## Requirements for the Major in Geology

### Bachelor of Science

The following curriculum, leading to the bachelor of science degree, is recommended as a minimum program for the pre-professional geologist. All candidates for this degree are required to attend a field camp.

The major must include 30 hours in eight courses (GEOL 101, 103, 210, 211, 310, 340, 410, and 460). An additional 12 credit hours must be acceptable electives above the 100 level, with at least one course at the 400 level. Acceptable electives include any GEOL courses at the 200, 300 or 400 level as well as METR 200 or 351.

No minor is required, however the student must complete a set of ancillary science and math requirements totaling 30 credit hours. These must include MATH 106 and 107, CHEM 109 or 113, and PHYS 141 and 142 or equivalents. The additional 6 required credit hours in science and math must consist of courses from the following list:

- ASTR 204  
 BIOS 101/101L, 102, 103, 104H, 109, 112/112L, 206  
 CHEM 110 or 114, 116 or 221, (251 and 253) or (261 and 263), 471  
 MATH 208, 221, 380  
 STAT 218  
 PHYS 311, 343

A candidate for the bachelor of science in geology should complete, by the end of the sophomore year, MATH 107; CHEM 113 (or equivalent) and GEOL 210, 211. By the end of the junior year the student should also have completed GEOL 310 and

the physics requirement. GEOL 460 is to be taken between the junior and senior years.

**Professional Geologist Emphasis.** Over 30 U.S. and Canadian states and provinces, including Nebraska, require geologists whose work affects public health and safety to obtain a professional license. Students wishing to pursue professional licensure should take the required core courses as well as GEOL 488. Recommended electives include GEOL 450, 470, 472, and 485.

**Sedimentology Emphasis.** Students pursuing this emphasis should choose four electives from the following: GEOL 414, 420, 421, 450, 485.

### Paleontology and Earth Systems Emphasis.

Students pursuing this emphasis should choose four electives from the following: GEOL 417, 423, 424, 430, 431, 435.

**Hydrological Sciences Emphasis.** Students pursuing this emphasis should choose four electives from the following: GEOL 417, 418, 450, 465, 470, 472, 488.

## Bachelor of Arts

The bachelor of arts program consists of the college comprehensive education requirements with at least one semester of chemistry and MATH 102 or 103, plus a minimum of 30 hours in geology including GEOL 101, 103, 210, 211, 310, and 340. Remaining credits in geology may include only 4 hours at the 100 level.

**Program Assessment.** In order to assist the department in evaluating the effectiveness of its programs, majors will be required:

1. To maintain and submit a portfolio of material produced for the required Summer Field Course, GEOL 460 (for BS students), or for the required Depositional Environments course, GEOL 310 (for BA students). Course instructors will inform students of the required contents, deadlines and procedures.
2. In their final semester, to participate in an exit interview/survey. The undergraduate adviser will inform students of the scheduling and format of their assessment activity.

Results of participation in this assessment activity will in no way affect a student's GPA or graduation.

## Requirements for the Minor in Geology

- 22 hours with only 8 hrs at the 100 level.

**Field Trips.** Many of the geology courses require field trips that often include camping and primitive conditions. The number of trips and their duration are a function of the requirements of the particular course.

## Major in Meteorology-Climatology

The Department of Geosciences offers a program leading to the bachelor of science degree in meteorology-climatology. This program combines basic atmospheric science and climatology courses with a rigorous training in mathematics, computer science,

and physics. This comprehensive degree program will prepare students for possible employment in state, federal, and private agencies which are involved in the many applied fields of meteorology-climatology. This series of courses will also assist the student in preparation for graduate-level studies in meteorology-climatology. The meteorology-climatology degree program fulfills the recommended curriculum of the American Meteorological Society (AMS) and the University Corporation for Atmospheric Research (UCAR). The degree program also meets or exceeds the minimum hiring requirements of the National Weather Service. The University of Nebraska-Lincoln is a member of UCAR.

**Undergraduate Adviser:** Merlin Lawson, 306 Bessey Hall, (472-2418)

## Requirements for the Major in Meteorology–Climatology

The following curriculum represents the minimum requirements for a major in meteorology-climatology.

### GROUP A: Core Courses (29 hrs)

METR 200, 205, 411, 412, 423, 441, 442, 464

### GROUP B: Electives (12 hrs chosen from following courses)

METR 370, 399, 408, 443, 450, 454, 469, 475, 483, 487, 495, 498, 499

### GROUP C: Required Related Courses (36 hrs)

MATH 106, 107, 208, 221; STAT 380; PHYS 211 & 221, 212; CHEM 109; CSCE 150E

**NOTE:** A minor in math can be obtained with the completion of the required mathematics and statistics courses.

**Program Assessment.** In order to assist the department in evaluating the effectiveness of its program in meteorology/climatology, each major during their last semester prior to graduation, will participate in an exit survey to gather information about the program from the student's perspective. The undergraduate adviser will inform students of the scheduling and format of the assessment activities.

Results of participation in this assessment activity will in no way affect a student's GPA or graduation.

## Requirements for the Minor in Meteorology–Climatology

**Meteorology emphasis.** METR 200, 205, 411, 423, 441, plus one METR course at the 400 level

**Climatology emphasis.** METR 200, 370, 475, and 9 hours from the following courses: METR 408, 443, 450, 454, 487, 498.

## Courses of Instruction

### Geology (GEOL)

(ACE 4) [ES] 100. **Introduction to Geology** (3 cr) Lec 3. GEOL 100 does not fulfill the prerequisite requirement for any course in geology. Credit toward the degree may be earned in only one of GEOL 100 or GEOL 101 or GEOL 101H.

Background in physical geology for non-majors. Topics include rocks and minerals, surficial processes, plate tectonics, and applied geology.

(ACE 4) [ES] 101. **Physical Geology** (4 cr) Lec 3, lab 3. *Lab includes field trips. Credit toward the degree may be earned in only one of GEOL 100 or GEOL 101 or GEOL 101H.* Minerals, rocks, and ores; the surface features and internal character of the earth and the forces that are constantly changing it. Examination of minerals and rocks and investigation of geological processes and their products.

[ES][IS] 101H. **Honors: Physical Geology** (4 cr) Lec 3, lab 3. Prereq: Good standing in the University Honors Program or by invitation; GEOL major. *GEOL 101H requires one afternoon and one overnight field trip. Credit toward the degree may be earned in only one of: GEOL 100 or 101 or 101H.* Processes that formed the earth and continue to alter it today, from interior forces driving plate tectonics, earthquakes, volcanoes, and mountain building, to surface processes driving the atmosphere, oceans, rivers, glaciers, and landscape formation. Natural resources and their origin.

(ACE 4) [ES] 103. **Historical Geology** (4 cr) Lec 3, lab 3. Prereq: GEOL 101. Physical and biological evolution of the earth. Lab work includes examination of ancient geological terrains through maps and fossils.

[ES] 103H. **Honors: Historical Geology** (4 cr) Lec 3, lab 3. Prereq: Good standing in the University Honors program or by invitation; GEOL 101. Physical and biological evolution of the earth. Lab work includes examination of ancient geological terrains through maps and fossils.

[ES] 105. **Life of the Past** (3 cr) Lec 3. *Credit towards the degree may be earned in only one of: GEOL 103 or 105. GEOL 105 is not open to geology majors.*

Survey of the evolution of plants and animals in relation to the geological changes in lands and seas. Records of fossil man, higher mammals, dinosaurs, and invertebrates.

(ACE 4) [ES] 106. **Environmental Geology** (3 cr) Lec 3. Survey of geologic materials and processes with emphasis on those that influence modern societies' adjustment to our environment.

### 107. Frontiers of Earth Science (1-6 cr)

Series of three five-week sessions, each dealing with a geologic topic of current interest and concern. Topics vary from term to term and are listed in the *Schedule of Classes*.

### (ACE 4) [ES] 109. Oceanography (3 cr) Lec 3.

Introduction to physical oceanography, the geologic aspects of biologic oceanography, and human impact on the oceans.

### [ES] 110. Geological Natural Hazards (3 cr) Lec.

Major geological natural hazards that affect human society and the geological processes that are responsible for them. Earthquakes, tsunamis, volcanoes, landslides, floods, wildfires, and meteorite impacts.

### (ACE 4) [ES] 115. The Earth's Energy Resources (3 cr) Lec 3.

The geological controls on the occurrence and distribution of important and potentially important energy resources. The environment and economic implications of energy resources exploration, development, and production.

### [ES] 120. Geology of National Parks and Monuments (3 cr) Lec 3.

Physical and historical geology of selected United States parks. Geological and geophysical processes that produced the unique features of the parks. Interpretation of fossils, archaeology and geologic history. Environmental park policy issues involving geosciences.

### 125. Frontiers in Antarctic Geosciences (3 cr) Lec 3.

Scientific exploration of the modern environment and geological and climate history of the Antarctic continent and Southern Ocean.

### [ES] 160. Geoscience Fundamentals in the Field (4 cr) Fld. *GEOL 160 requires a two-week field trip.*

Scientific principles and practices illustrated through geological field work in Nebraska and Wyoming for science educators.

### [ES][IS] 182. Alpha Learning Community Freshman Seminar (3 cr) *Admission to the Alpha Learning Community Program.*

Topic varies.

[ES] 210. **Minerals, Rocks and Ores** (4 cr) Lec 3, lab 3. Prereq: CHEM 109 or 113, or parallel; GEOL 101. Mineral classification and systematics, gemstones, and phase diagrams. Classification, occurrence, and formation of igneous and metamorphic rocks. Introduction to ore deposits.

[ES] 211. **Sedimentology and Stratigraphy** (3 cr) Lec 2, lab 3. Prereq: GEOL 210 or equivalent.

Sedimentary rocks and processes, their descriptive parameters, occurrence, origin, and significance in earth history. Stratified rocks in time and space, and methods of correlating geologic units from different localities.

### 299. Independent Study in Geology (1-3 cr) Prereq: Permission.

**308. Biogeography** (GEOG, NRES 308) (3 cr) Lec 3. Prereq: GEOG 155 or BIOS 101 or GEOL 101. *Biogeography (GEOG/GEOL/NRES 308) is a highly interdisciplinary science, relying heavily on ecology, geological science, and climatology. It is global in scope and offers the latest knowledge in understanding organism distributions, and the factors that determine those distributions.* For course description, see GEOG 308.

### 310. Depositional Environments (3 cr) Lec 2, lab 3. Prereq: GEOL 210 and 211, or equivalent.

Sedimentological facies analysis and recognition of clastic, carbonate, and evaporite depositional systems in the rock record.

### 315. Optical Mineralogy (1 cr) Lab 3. Prereq: GEOL 210 or parallel.

Optical identification of minerals in immersion mounts and thin and polished sections using a polarizing microscope. Common rock and ore forming minerals.

### [IS] 320. Stratigraphy (3 cr) Lec 2, lab 3. Prereq: GEOL 103 or 105. *Field trips required.*

Principles of stratigraphy. Correlation by lithologic, paleontologic, paleomagnetic, isotopic, and geophysical characteristics. Concept of facies and a survey of major depositional environments. Description, measurement, and correlation of geologic sections in the field.

### [IS] 340. Structural Geology (3 cr) Lec 3, lab 3. Prereq: GEOL 310; MATH 102 or equivalent; PHYS 141 or 141H or 211 or 211H, or parallel.

Folding and faulting of rocks, types of texture and rock structure, cleavage, joints, dikes, and unconformities; structural interpretation of geologic maps; plate tectonics, mountain belts, and regional structures.

### 361. Soils, Environment and Water Quality (AGRO, NRES, SOIL, WATS 361) (3 cr II) Lec 3. Prereq: AGRO/HORT/SOIL 153; MATH 102 or 103; and one semester CHEM or equivalent. For course description, see SOIL 361.

### [ES] 410. Geochemistry (3 cr) Lec 3. Prereq: MATH 106; CHEM 109 or 113; GEOL 210.

Age of the Earth. Origin of the elements, solar system, oceans, atmosphere, and global geochemical cycles. Radioactive isotope geochemistry, stable isotope geochemistry, and equilibrium relationships.

### 414/814. Clay Mineralogy (4 cr) Lec 3, lab 3. Prereq: GEOL 210; CHEM 113 or equivalent.

Structures and properties of common clay minerals; their formation and geologic/pedologic distribution. Generation and use of x-rays for diffraction analysis. Analysis of clays and related minerals by x-ray diffraction and electron microscopy.

### 415/815. Water Resources Seminar (AGRO, GEOG 481/881; NRES 415/815) (1 cr II) Prereq: Junior standing or above or permission.

For course description, see AGRO 481/881.

### 417/817. Organic Geochemistry (3 cr) Lec 3. Prereq: GEOL 410 and CHEM 251.

Origin, preservation and transport of organic compounds found in the rock record. Applications of organic geochemistry to paleoclimatic and paleoenvironmental interpretations as well as discerning the origins of coal, oil and natural gas.

### 418/818. Chemistry of Natural Waters (NRES 419/819, WATS 418) (3 cr II) Lec 3. Prereq: 2 semesters of college chemistry, or CHEM 109 and 110, 113 and 114, or CHEM 111; or permission.

Principles of water chemistry and their use in precipitation, surface water, and groundwater studies. Groundwater applications used to determine the time and source of groundwater recharge, estimate

groundwater residence time, identify aquifer mineralogy, examine the degree of mixing between waters of various sources and evaluate what types of biological and chemical processes have occurred during the water's journey through the aquifer system.

**418L/818L. Chemistry of Natural Waters Laboratory** (NRES 419L/819L, WATS 418L) (1 cr II) Lab 1. Prereq: Two semesters college chemistry or permission. Parallel: GEOL 418/818, NRES 419/819, WATS 418. *Offered even numbered calendar years or as needed.*

Basic laboratory techniques used to perform water analysis including various wet chemical techniques, instrument use (AA, IC, UV-Visible) and computer modeling. Techniques for sample collection and preservation, parameter estimation and chemical analysis.

**419/819. Applications of Remote Sensing in Agriculture and Natural Resources** (AGRO, GEOG 419/819; NRES 420/820) (4 cr) Lec 3, lab 2. Prereq: GEOG/NRES 418/818 or permission. For course description, see GEOG 419/819.

**420/820. Siliciclastic Sedimentology** (3 cr) Lec 2, lab 3. Prereq: GEOL 310.

Depositional processes, environments of deposition, and facies models. Description, classification, and analysis of modern and ancient siliciclastic sediment and sedimentary rocks.

**421/821. Carbonate Petrology** (3 cr) Lec 2, lab 3. Prereq: GEOL 310. *Lab focuses on field, petrographic and geochemical methods.* Depositional settings and processes, petrography, geochemistry, diagenesis and geological significance of modern and ancient carbonate rocks and sediments.

**423/823. Quaternary Paleoclimatology and Paleoecology** (BIOS 436/836) (3 cr) Lec 3. Prereq: 12 hrs GEOL or BIOS. Analysis and interpretation of the Quaternary period's paleo-ecological data. Patterns of long-term climate variation. Distribution patterns and responses of organisms and ecosystems to Quaternary environmental change.

**424/824. Biogeochemical Cycles** (BIOS 438/838) (3 cr) Lec 3. Prereq: CHEM 109 or 113; 12 hrs geology or biological sciences. Chemical cycling at or near the earth's surface, emphasizing interactions among the atmosphere, biosphere, geosphere and hydrosphere. Modern processes, the geological record, and human impacts on elemental cycles.

**428/828. Stratigraphic Architecture and Sequence Stratigraphy** (3 cr) Lec 2, lab 3. Prereq: GEOL 310. Stratigraphic stacking patterns in sedimentary basins and sequence stratigraphic methods.

**430/830. Quantitative Methods in Paleontology** (3 cr) Lec 3. Prereq: GEOL 310.

Numerical and statistical analysis of paleontological data including biometry, synecology, and quantitative biostratigraphy.

**431/831. Micropaleontology** (3 cr) Lec 2, lab 3. Prereq: GEOL 310. GEOL 431 is open to BIOS majors by permission only. Morphology, classification, ecology and geological application of common fossil and extant marine, brackish, and freshwater microfossils.

**435/835. Vertebrate Paleontology** (3 cr) Lec 2, lab 3. Prereq: Permission or graduate standing. Survey of the evolution of the vertebrates, including the geological and biological factors that influence the pattern of evolution, and laboratory study of fossil materials of the major vertebrate groups.

**436/836. Mammalian Paleontology** (2 cr) Lec 2. Prereq: Permission or graduate standing. Survey of Mesozoic and Cenozoic mammalian history, with emphasis on integration of geological and biological data on pattern and process in mammalian evolution.

**439L/439L. Marine Ecology and Paleoecology Lab** (BIOS 461L/861L) (1 cr) Lab 3. Prereq: Parallel GEOL 439/839. *Lab includes several field trips.*

**439/839. Marine Ecology and Paleoecology** (BIOS 461/861) (2 cr) Lec 2. Prereq: BIOS/NRES 220. *GEOL majors should register for GEOL 439L/BIOS 461L.*

Introduction to the fundamentals of marine ecology and their application to paleoecology.

[IS] **440/840. Tectonics** (3 cr) Lec 3. Prereq: GEOL 340 or permission.

Theory of plate tectonics; tectonic controls on rock assemblages; interpretation of regional structure and tectonic history; origin and tectonic evolution of terrestrial planets.

**442/842. Environmental Geophysics I** (NRES 442/842) (4 cr) Lec 3, lab 3. Prereq: MATH 107; PHYS 211; GEOL 101 or 106; or equivalent or permission.

Introduction to the principles of seismic, ground-penetrating radar, and bore-hole geophysical methods and their application to groundwater, engineering, environmental, and archaeological investigations.

**443/843. Environmental Geophysics II** (NRES 443/843) (4 cr) Lec 3, lab 3. Prereq: MATH 107; PHYS 211; GEOL 101 or 106; or equivalent or permission.

Introduction to principles of magnetic, electromagnetic, resistivity, and gravity methods and their application to ground water, engineering, environmental, and archaeological investigations.

**446/846. Palynology** (3 cr) Lec, lab. Prereq: 12 hrs geosciences. *GEOL 446/846 lab focuses on techniques for pollen recovery from modern and ancient materials.*

Pollen and spore morphology, taxonomy, and pollination ecology as a basic tool for geologists, biologists, and archaeologists interested in environmental reconstruction. Techniques of environmental reconstruction through pollen analysis. Aspects of medical and forensic palynology summarized.

**450/850. Surficial Processes** (3 cr) Lec 2, lab 3. Prereq: GEOL 310 or permission. *Two or three half-day field trips to local sites of interest and a five-day field trip to Colorado and Wyoming are required.*

Fluvial, glacial, eolian, and coastal processes and landforms. Roles of tectonics, climate, and climate change in landscape evolution. Lab stresses description and interpretation of landforms from remotely-sensed, cartographic, and field data.

**457/857. Ecosystem Ecology** (BIOS 457/857) (4 cr) Lec 3, rct 1. Prereq: BIOS 207 or 220; CHEM 110; and MATH 107.

For course description, see BIOS 457/857.

[IS] **460. Summer Field Course** (6 cr) Prereq: 12 hrs geology. Six weeks advanced study on selected field problems. Conducted in a geologically classic area where all major rock types are studied in a variety of geologic situations.

**461/861. Soil Physics** (AGRO, NRES 461/861; SOIL, WATS 461) (3 cr I) Lec 3. Prereq: AGRO/SOIL 153, PHYS 141 or equivalent, one semester of calculus. Recommended: Parallel AGRO/NRES/ SOIL 458.

For course description, see NRES 461/861.

**465/865. Soil Geomorphology and Paleopedology** (NRES 465/865) (3 cr) Lec 2, lab 3. Prereq: GEOL 450/850 and NRES 477/877; or permission. *Two field trips required.*

Soils and paleosols as evidence in reconstruction landscape evolution and paleoenvironments. Role of paleosols in stratigraphy.

**470/870. Field Techniques in Hydrogeology** (3 cr) Lec 3. Prereq: GEOL 488/888 or permission.

Basic techniques, including field procedures, instruments, and software for data interpretation and characterization of groundwater flow and contaminant transport. Combined lectures, laboratory, assigned problems, full day field trips, and seminars.

**472/872. Water in Geosciences** (3 cr II) Prereq: MATH 106 and 107; PHYS 141; and one of the following: GEOL 101 or 106 or METR 200.

Quantitative approach to water in geological media, earth surface and atmosphere. Understanding and analysis of physical processes involved in groundwater-surface-atmosphere interactions.

(ACE 10) **475/875. Water Quality Strategy** (AGRO, CRPL, CIVE, NRES, MSYM, POLS, SOCI 475/875; SOIL, WATS 475) (3 cr II) Lec 3. Prereq: Senior standing or permission.

For course description, see AGRO 475/875.

**480/880. Economic Geology of the Metals** (2 cr) Lec 2, lab 2. Prereq: 12 hrs geology including GEOL 210, 340; CHEM 114, 116. Occurrence and utilization of the metallic ores. Elementary theory of ore genesis.

**485/885. Fossil Fuel Geology and Exploration** (3 cr) Lec 2, lab 3. Prereq: 12 hrs geology.

Geology of coal, oil and gas, and methods of exploration.

**488/888. Groundwater Geology** (NRES 488/888) (3 cr) Prereq: GEOL 100-level course; MATH 106 or equivalent. Occurrence, movement, and development of water in the geologic environment.

**495/895. Economic and Exploration Geology** (2 cr, max 6) Lec 2, fld. Prereq: GEOL 310 and GEOL 320; or equivalent. Recommended parallel: A GEOL course as indicated by the instructor and will vary according to the course content of GEOL 495. *Field trips are required and supported by alumni endowment. Course content will vary on a three-year rotational basis. Combined lectures, seminars, weekend short courses, and field trips. Field trips may be scheduled during semester breaks.*

E. F. Schramm course in Economic Geology. Aspects of fossil fuel geology and exploration.

**498. Special Topics in Geology** (1-24 cr) Prereq: Permission. *The nature of a given semester's course will depend on student demand and availability of staff. Full titles will appear on students' transcripts.*

Reviews of specialized subject areas.

**499. Independent Study in Geology** (1-24 cr) Prereq: Prior agreement with and permission of individual faculty member.

**499H. Honors Course** (1-4 cr) Prereq: Open to candidates for degrees with distinction, with high distinction, and with highest distinction in the College of Arts and Sciences.

**812. Advanced Mineralogy** (3-6 cr) Prereq: 12 hrs geology including GEOL 210; CHEM 113.

**816. Isotope Geochemistry** (3 cr) Lec 3. Prereq: GEOL 410 or permission.

**825. Geostatistics** (NRES 825) (3 cr I) Prereq: MATH 106 and STAT 218. *Offered fall semester of odd-numbered calendar years.*

**869. Regional Field Geology** (1 cr) Prereq: 12 hrs geology including GEOL 103. Prereq or parallel: GEOL 427/827.

**889. Hydrogeology** (NRES 887) (3 cr) Prereq: GEOL 488, MATH 208.

**898. Special Problems in Geology** (1-6 cr per sem) Prereq: 12 hrs geology.

**899. Masters Thesis** (6-10 cr per sem)

## Meteorology-Climatology (METR)

(ACE 4) [ES] 140. **Severe and Unusual Weather** (3 cr) Lec 3. Prereq: MATH 101 or equivalent. *METR 140 will not count toward the major in METR.*

Meteorological basics to help understand ice storms, blizzards, tornadoes, hurricanes, flooding, droughts, and other unusual weather.

(ACE 4) [ES][IS] 200. **Weather and Climate** (4 cr) Lec, lab. Prereq: MATH 101 or equivalent.

Physical behavior of the atmosphere; elements of weather and climate and their distribution over the earth. Weather map analysis and forecasting. Atmospheric circulation, precipitation processes, severe weather, air pollution, and the use of weather radar. Concepts of weather forecasting.

[ES][IS] 205. **Introduction to Atmospheric Science** (4 cr) Lec 3, lab 2. Prereq: MATH 106/106B/108H; METR 200; PHYS 211/211H. Conceptual foundations for synoptic and dynamic meteorology. Meteorological data analysis, the dynamics of atmospheric motions, and atmospheric thermodynamics.

[ES][IS] 370. **Basic and Applied Climatology** (NRES 370) (3 cr) Lec 3. Prereq: METR 200.

For course description, see NRES 370.

**399. Independent Study** (1-24 cr, max 24) Prereq: Permission.

**399H. Honors Course** (1-4 cr) Prereq: Admission to the University Honors Program or by invitation; candidate for degree with distinction or with high distinction or with highest distinction in the College of Arts and Sciences; and permission.

**408/808. Microclimate: The Biological Environment** (AGRO, GEOG, HORT, NRES 408/808; WATS 408) (3 cr) Prereq: Junior standing, MATH 106 or equivalent, 5 hrs physics, major in any of the physical or biological sciences or engineering; or permission.

For course description, see NRES 408/808.

**411/811. Dynamic Meteorology I** (3 cr) Lec 3. Prereq: CSCE 150E; MATH 208/208H; METR 205; PHYS 211/211H. Equations of thermodynamics, momentum, and continuity are derived and applied to atmospheric motion. Energy conservation, flows, and conversions.

**412/812. Dynamic Meteorology II** (3 cr) Lec 3. Prereq: CSCE 150E; MATH 221/821; METR 411/811; PHYS 211/211H. Applications of the principles of dynamic meteorology to the problems of forecasting and meteorological problems.

**415/815. General Circulation of the Atmosphere** (3 cr) Lec 3. Prereq: Junior standing; MATH 106 or 108H; METR 205 and 475/875; PHIL 221; PHYS 211 or 211H. Development of the atmospheric circulation regimes, from planetary scale (e.g., the planetary waves) to synoptic scale (e.g., the cyclones and anticyclones) and mesoscale, their seasonal variations, and their roles in horizontal and vertical energy and water transports and budgets in the Earth system.

**423/823. Physical Meteorology** (4 cr) Lec 3, lab 2. Prereq: CSCE 150E; METR 205; PHYS 212/212H. Physical principles that provide the foundation for meteorology. Absorption, scattering, and transmission of radiation in the atmosphere, cloud physics, precipitation process, atmospheric optics, and lightning.

**428/828. Atmospheric Chemistry** (3 cr) Lec 3. Prereq: 6 hrs METR; CHEM 109. Basic processes (e.g., emission, transport, chemical reaction, and deposition) associated with atmospheric chemistry and combining meteorology and atmospheric chemistry for air quality forecasting. Environmental topics: acid rain, smog, air pollution, and ozone holes in the context of climate change.

**441/841. Synoptic Meteorology** (4 cr) Lec 3, lab 2. Prereq: METR 205. Dynamic and thermodynamic concepts and principles are applied to synoptic-scale weather forecasting. Dynamics, energetics, structure, evolution, and motion of extra-tropical cyclones. Meteorological communications, interpretation and analysis of weather maps, and thermodynamic diagrams.

**[IS] 442/842. Advanced Synoptic Meteorology-Climatology** (4 cr) Lec 3, lab 1. Prereq: METR 441/841. Analysis and forecasting of subsynoptic-scale weather systems. Convection, thunderstorm models, severe local storm forecasting techniques, mesoscale convective complexes, vertical cross-sections, isentropic analysis, and weather radar.

**443/843. Severe Storms Meteorology-Climatology** (3 cr) Lec 3. Prereq: METR 205. Dynamics of various types of severe weather (blizzards, flash floods, lightning, thunderstorms and winter and summer tornado outbreaks). Interpretation of the numerical and statistical models utilized to forecast these phenomena. Synoptic case studies of severe weather occurrences. Recent research on severe weather.

**450/850. Climate and Society** (AGRO, GEOG 450/850; NRES 452/852) (3 cr) Prereq: METR 200 or 351 or equivalent, or permission. Offered spring semester of even-numbered calendar years. For course description, see NRES 452/852.

**[IS] 454/854. Statistical Analysis of Atmospheric Data** (3 cr) Lec 3. Prereq: 6 hrs METR and MATH 107/107H. Application of univariate statistics, hypothesis testing, statistical forecasting, forecast verification, time-series analysis, principal component analysis, and cluster/multivariate analysis to atmospheric data for different applications in the atmospheric sciences (from short-term weather forecast to long-term climate prediction).

**464/864. Satellite Meteorology** (3 cr) Lec 3. Prereq: METR 205. Concepts and principles related to meteorological observations from satellites. Applications for weather analysis and forecasting.

**465/865. Satellite Remote Sensing of Atmosphere** (3 cr) Lec 3. Prereq: METR 423/823. Principles of atmospheric radiation and techniques for satellite image processing. Application of data calibration, image

registration and enhancement, noise filtering and multi-spectral classification of satellite imageries. Survey of various satellite sensors used for monitoring different atmospheric processes and constituents.

**469/869. Bio-atmospheric Instrumentation** (AGRO, GEOG, MSYM 469/869; HORT 407/807) (3 cr 1) Lec 2/lab 1. Prereq: Junior standing; MATH 106; 4 hrs physics; physical or biological science major. Offered fall semester of odd-numbered calendar years.

For course description, see NRES 469/869.

**470/870. The Climate System** (3 cr) Lec 3.

Maintenance of the climate system and climate change over time. Global budgets of energy, water, and momentum and their balance. Development of simple, physically-based models of climate and of climate change.

**475/875. Physical Climatology** (3 cr) Lec 3. Prereq: METR 205. Global energy and water balance regimes of the earth and its atmosphere. Utilization of physical laws to reveal causes and effects of interrelationships in the climatic system.

**[IS] 478/878. Regional Climatology** (NRES 478/878) (3 cr) Lec 3. Prereq: NRES/METR 370.

For course description, see NRES 478/878.

**483/883. Global Climate Change** (NRES 467/867) (3 cr 1) Lec 3. Prereq: Junior standing; MATH 106/106B/108H; 5 hrs PHYS; METR 475/875. METR 483/883/NRES 467/867 is offered fall semester of even-numbered calendar years.

Elements of climate systems, El Nino and/or La Nina cycle and monsoons, natural variability of climate on interannual and interdecadal scales. Paleoclimate and future climate. Develop climate change scenarios and climate change impacts on natural resources and the environment.

**487/887. Earth's Climate: Past, Present, Future** (3 cr) Lec 3.

Prereq: 6 hrs METR or 6 hrs GEOL.

How the Earth's climate has varied and the forcing mechanisms related to those changes. Themes that reappear through Earth's climate history and into the future; causes of climate change; the natural response times of the multiple components; and the role of greenhouse gases within the climate system at differing time scales.

**495/895. Internship in Meteorology-Climatology** (1-6 cr, max 6) Fld. Prereq: Permission. Pass/No Pass only. Only 3 cr hrs of METR 495 may be applied to the major and/or minor in METR. Application of meteorology-climatology learning with on-the-job training.

**498/898. Special Topics in Meteorology-Climatology** (1-24 cr, max 24) Prereq: Permission.

**499. Independent Study** (1-24 cr, max 24) Prereq: Prior agreement with instructor and permission.

**499H. Honors Course** (1-4 cr) Prereq: Admission to the University Honors Program or by invitation, candidate for degree with distinction or with high distinction or with highest distinction in the College of Arts and Sciences, and permission.

**\*880. Theory of Climate** (3 cr) Lec 3. Prereq: MATH 221, PHYS 142 or equivalent.

## Great Plains Studies

**Director:** James Stubbendieck, 1155 Q Street, Room 306  
**Chief Adviser:** Charles Braithwaite, 1155 Q Street, Room 504

Great Plains Studies is an interdisciplinary/intercollegiate program of the Center for Great Plains Studies, 1155 Q Street. A major or minor in Great Plains Studies may be a useful program for students who plan a career in business, education, planning, policy analysis, agriculture, or local history in the plains region. Courses that comprise the program are based in the following cooperating departments: agricultural economics; agronomy; anthropology and geography; architecture;

art and art history; biological sciences; community and regional planning; English; ethnic studies; geosciences; history; modern languages and literatures; music; natural resource sciences; political science; and sociology. The Frances W. Kaye Scholarship for \$500 is awarded each year to a Great Plains major.

## Requirements for the Major in Great Plains Studies

The major requires 30 hours of work in Great Plains courses. Students will take GPSP 170, Introduction to Great Plains Studies (3 cr), and GPSP 400, Seminar in Great Plains Studies (3 cr), and at least one course in each of the four categories: human heritage, natural environment, social environment, and arts and humanities, for a total of 12 hours. The remaining 12 hours can be taken from other courses listed under these categories, from at-large courses, or as independent study, except that no more than 3 hours of independent study will ordinarily be counted toward the major. The courses should be chosen in such a way as to construct a thematically or professionally coherent program. At least 12 hours of course work must be at the 300 and 400 levels. Other courses or independent study may be substituted for some of the courses listed with permission of the chief adviser. The chief adviser may also assign an adviser for each student from among the faculty fellows of the Center. Up to 6 hours of suitable internship work can be included in the 30 hours required for the major, and Great Plains Studies students are strongly encouraged to pursue an internship through Career Services: Student Jobs and Internships as part of their program.

**Program Assessment.** In order to assist the department in evaluating the effectiveness of its programs, majors will be required:

1. To develop a portfolio consisting of materials from Great Plains course work, to be submitted to the undergraduate adviser at the conclusion of the Seminar in Great Plains Studies, GPSP 400. It should include the research paper from the Seminar in Great Plains Studies, as well as papers from at least three other disciplines.
2. In their senior year, to participate in an exit interview. The undergraduate adviser will inform students of the scheduling and format of assessment activities.

Results of participation in this assessment activity will in no way affect a student's GPA or graduation.

## Requirements for the Minor in Great Plains Studies

- 18 hours, at least 6 at 300 level or above, including: GPSP 170. Intro to Great Plains Studies (3 cr) GPSP 400. Seminar in Great Plains Studies (3 cr) Three hours each from three out of four core areas approved for major.
- Three hours to be chosen from among core courses, courses-at-large, internship, or independent study.

## A. Core Courses

All majors take at least one course from each of the following four categories:

### Arts and Humanities

- AHIS 398. Great Plains Art (3 cr)  
 ENGL 211A. Plains Literature (3 cr)  
 ENGL 247. Literature & Arts on the Plains (3 cr)  
 ENGL 347. Humanities on the Plains (3 cr)

### Human Heritage

- ANTH 434. Intro to Great Plains Archaeology (3 cr)  
 GEOG 334. Historical Geography of the Great Plains (3 cr)  
 HIST 360. History of Nebraska and the Great Plains (3 cr)  
 HIST 465. History of Plains Indians (3 cr)

### Natural Environment

- BIOS 232. Ecological Issues in the Great Plains (3 cr)  
 NRES 310. Intro to Forest Management (3 cr)

### Social Environment

- ANTH 130. Anthropology of the Great Plains (3 cr)  
 ANTH 352. Indigenous Peoples of the Great Plains (3 cr)  
 POLS 225. Nebraska Government & Politics (3 cr)

## B. Courses at Large

### Great Plains Courses at Large

- AECN 201. Farm & Ranch Management (4 cr)  
 AECN 265. Resource & Environmental Economics I (NREE 265) (3 cr)  
 AECN 376. Rural Community Economics (3 cr)  
 AECN 388. Ethics in Agriculture & Natural Resources (ALEC 388) (3 cr)  
 AECN 445. Agricultural & Natural Resource Policy Analysis (NREE 445) (3 cr)  
 AGRO 440. Great Plains Ecosystems (RNGE 440) (3 cr)  
 AGRO 445. Livestock Management on Range & Pasture (ASCI 451/RNGE 445) (3 cr)  
 AGRO 475. Water Quality Strategy (CIVE/CRPL/GEOL/MSYM/POLS 475) (3 cr)  
 ANTH 451. Contemporary Issues of Indigenous Peoples in North America (ETHN 451) (3 cr)  
 BIOS 455. Great Plains Flora (4 cr)  
 BIOS 459. Limnology (NRES/WATS 459) (4 cr) (Offered at Cedar Point Biological Station)  
 BIOS 470. Prairie Ecology (4 cr) (Offered at Cedar Point Biological Station)  
 BIOS 475. Ornithology (3 cr) (Offered at Cedar Point Biological Station)  
 BIOS 482. Field Entomology (ENTO 411) (4 cr) (Offered at Cedar Point Biological Station)  
 BIOS 487. Field Parasitology (4 cr) (Offered at Cedar Point Biological Station)  
 BIOS 488. Natural History of the Invertebrates (4 cr) (Offered at Cedar Point Biological Station)  
 BIOS 489. Ichthyology (NRES 489) (4 cr) (Offered at Cedar Point Biological Station)  
 ENGL 245B. Native American Literature (ETHN 245B) (3 cr)  
 ENGL 245K. Canadian Literature (3 cr)  
 ENGL 405K. Canadian Fiction (3 cr)  
 ENGL 445E. Native American Literature (ETHN 445E) (3 cr)  
 GEOG 370. Geography of Nebraska (2-3 cr)  
 HIST 352. American West Since 1900 (3 cr)  
 HIST 359. The Mythic West (3 cr)  
 MUSC 489. American Music (2-3 cr)  
 NRES 415. Water Resources Seminar (AGRO, GEOG 481/GEOL 415) (1 cr)  
 SOCI 446. Environmental Sociology (3 cr)

## Courses of Instruction (GPSP)

[ES] 170. Introduction to Great Plains Studies (ANTH, GEOG, NRES, SOCI 170) (3 cr) *Required for Great Plains Studies majors and minors.*

Interdisciplinary study of the natural environment, social environment, human heritage, arts and humanities of the Great Plains.

399. Independent Directed Reading (1-3 cr) *Must be taken under the direction of a faculty fellow of the Center for Great Plains Studies.*

399H. Honors Course (1-3 cr) Prereq: Candidacy for degree with distinction, with high distinction, or with highest distinction in the College of Arts and Sciences. *Must be taken under the direction of a faculty fellow of the Center for Great Plains Studies.*

[IS] 400/800. Seminar in Great Plains Studies (GEOG, HIST 400/800) (3 cr) Prereq: A course in the study of the Great Plains. *GPSP/GEOG/HIST 400 is required for a GPSP major or minor.* Topic varies.

495/895. Internship (1-6 cr, max 6) Fld. Prereq: For GPSP 495: Junior standing, Great Plains major or minor, and permission. For GPSP 895: permission. *Pass/No Pass only.*

## History

**Chair:** Kenneth J. Winkle, 609 Oldfather Hall

**Professors:** Ambrosius, Berger, Borstelmann, A. Burnett, Cahan, Coble, Kleimola, Levin, Mahoney, Maslowski, Thomas, Winkle, Wunder

**Associate Professors:** Akers, S. Burnett, Coope, Garza, Gorman, Graybill, Jacobs, Lawrence, LeSueur, Schrafstetter, Smith

**Assistant Professors:** Ari, Curry, J. Jones, P. Jones, Seefeldt

The Department of History offers topical and period courses of general cultural and educational value to all University students to broaden their range of historical experience and sense of perspective. The particular aim of the history program is not only to provide knowledge for students who are preparing for a career in education, but also to give instruction that will aid those with interests in law, journalism, library, and museum work; in local, state, and national public service; and in business where a knowledge of domestic and foreign affairs is particularly useful.

## Requirements for the Major in History

The minimum requirement for a major in history is 32 credit hours. This requirement must include the following:

1. Six credit hours in United States or Canadian history.
2. Six credit hours in European history (including British history).
3. Six credit hours in either Latin American, Asian or African history.
4. Six credit hours in the pre-1800 period.
5. Twelve credit hours at the 300 and/or 400 level.
6. HIST 288 (Intro to Historical Methods) in the sophomore year or the semester after declaring history as a major.

**Program Assessment.** In order to assist the department in evaluating the effectiveness of its programs, majors will be required:

1. To maintain and assemble a portfolio to include three examples of written work. The undergraduate adviser will inform students of the required contents, deadlines, and procedures.

2. In their senior year, to complete an exit survey or participate in an exit interview. The undergraduate adviser will inform students of the scheduling and format of this assessment activity.

Results of participation in this assessment activity will in no way affect a student's GPA or graduation.

## Requirements for the Minor in History

- 18 hours including 6 hours in courses numbered 300 and above.

**Pass/No Pass.** The Department of History accepts no more than 3 hours of credit taken Pass/No Pass for either a major or minor. This provision excludes HIST 398, which can only be taken Pass/No Pass.

**Honors Program.** The Department of History offers a four-year program of honors work beginning with honors sections in the introductory courses for freshmen and sophomores. For upperclassmen, the Departmental Honors Program consists of directed reading courses and seminars. In the senior year, an honors student is expected to prepare an honors thesis for a bachelor of arts degree with distinction.

**Graduate Work.** The Department of History offers the advanced degrees of master of arts and doctor of philosophy. For details of these programs, see the *Graduate Studies Bulletin*.

## Courses of Instruction (HIST)

**NOTE:** There are no prerequisites for history courses below the 300 level. This symbol (\$) precedes a course that is also pre-1800.

### United States or Canadian History

[ES][IS] 105. American Ways (POLS 105) (3 cr) Prereq: Open to freshmen only. *Not open to students with credit in HIST 201 or 202 or POLS 100.*

Develops an historical perspective on current American political problems. The peculiar American relationship to questions of scarcity and how our political institutions have been shaped by those questions.

(ACE 5) [ES] 201. American History to 1877 (3 cr)

Survey of American history from the age of discovery through the Civil War. Emphasis on political, economic, and social problems in the growth of the American nation.

(ACE 5) [ES][IS] 201H. Honors: American History to 1877 (3 cr) Prereq: Good standing in the University Honors Program or by invitation or permission.

For course description, see HIST 201.

(ACE 5) [ES] 202. American History After 1877 (3 cr)

Emphasis on the political, economic, and social problems accompanying America's rise as an industrialized world power.

(ACE 5) [ES][IS] 202H. Honors: American History After 1877 (3 cr) Prereq: Good standing in the University Honors Program or by invitation or permission.

For course description, see HIST 202.

**(ACE 5) [ES] 205. History of Canada (3 cr) Lec.**

Survey of Canadian history from sixteenth century European exploration to present. Interactions between indigenous peoples and European newcomers. Establishment of French and British settlements. Social, economic and political developments. The persistent dilemma of national identity.

**(ACE 9) [ES] 241. Native American History (ETHN 241) (3 cr)**

History of Native peoples of North America, focusing on peoples of the region that became the United States. Surveys major themes and issues in Native American history from origins to the present day. Includes tribal cultures and politics; responses to and interactions with Europeans and Euroamericans; land loss and the degradation of Native Americans' natural resource bases; "pan-Indian" movements; cultural persistence and revitalization; and tribal economies in the twentieth century.

**(ACE 9) [ES][IS] 242. Native American Women (ETHN, WMNS 242) (3 cr) Lec 3.**

History of the indigenous women of North America. Gender roles and kinship organization, women's work and economic activities, political and diplomatic roles, and everyday lives and relationships. Analysis of change over time and the effects of colonization and dominant society's imposition of patriarchy. Famous indigenous women such as Pocahontas, Sacagawea, Nancy Ward, and Winona LaDuke. Contemporary issues.

**302. America in the 1960s (3 cr) Lec 3. Prereq: Sophomore standing. A basic understanding of United States history is recommended.**

The United States during "the long sixties" between 1955 and 1975. Electoral politics, the Great Society, civil rights, Vietnam, student and anti-war protest, Black Power, counter-culture, feminism, identity politics, New Right, music, pop culture, and spirituality.

**[ES] 303/803. United States Military History, 1607-1917 (3 cr) Prereq: Sophomore standing or permission.**

Significance of military affairs in the context of American political, economic, and social history from the formation of the earliest colonial militias to the pre-WWI preparedness movement. Discusses all of the major wars of this period but also emphasizes such themes as the professionalization of the officer corps, the relationship between war and technology, and civil-military relations.

**[ES] 304/804. United States Military History Since 1917 (3 cr) Prereq: Sophomore standing or permission.**

Significance of military affairs in the context of American political, economic, and social history from America's entry into WWI to the present. Discusses all of the major wars of this period but also emphasizes such themes as the professionalization of the officer corps, the relationship between war and technology (especially nuclear weapons), and civil-military relations.

**[ES] 306. African American History: African Origins to 1877 (ETHN 306) (3 cr) Lec. Prereq: Sophomore standing.**

African American history from African origins to 1877. The slave trade. The development of slavery and slave culture. The experience of free black people in both the North and South. The role of black people in the Revolution and the Civil War. Emancipation and Reconstruction and the Compromise of 1877.

**[ES] 309. African American History: After 1877 (ETHN 309) (3 cr) Lec. Prereq: Sophomore standing.**

African American history from the end of the Reconstruction period through the present. Social, cultural, economic and political history, the Jim Crow era in the South, African American experience in the urban North and West, the Civil Rights Movement, and the post-Civil Rights era.

**320. History of American Medicine (3 cr) Lec 3. Prereq:**

Sophomore standing. Some background in American history is recommended. From the colonial period to the end of the twentieth century. Disease as an historical force; the professionalization of medical education and research; medicine and public health; and the dissemination of scientific and technological innovations to bedside practice.

**334. Colonial America (3 cr) Prereq: Sophomore standing or permission.**

History of the peoples who settled the lands that became the United States prior to the American Revolution (1776). Encounters among Europeans, Africans, and Native Americans, the development of political economies, multi-ethnic and religious societies, diplomatic relationships, and colonial regimes. Impact of colonialism in modern American society.

**§335. The Era of the American Revolution (3 cr) Prereq: Sophomore standing or permission.**

Analysis of the politics of eighteenth century anti-imperialism and colonialism and of the impact of force and ideology on social and political institutions as well as economic patterns.

**340/840. American Legal History (3 cr) Prereq: Sophomore standing or permission.**

Evolution of a distinct American legal culture from colonial times to the present, emphasizing the history of the components of the legal system, the judiciary, the bar, litigants, law enforcement and corrections, and legal doctrine.

**341. American Constitutional History I (3 cr) Prereq: Sophomore standing or permission.**

Survey of the origins and development of representative governmental institutions, the role of the judiciary, the forging of government as an agency for social and economic reform, and the establishment of civil and political rights for individuals and minority groups.

**342. American Constitutional History II (3 cr) Prereq: Sophomore standing or permission.**

Survey of the origins and development of representative governmental institutions, the role of the judiciary, the forging of government as an agency for social and economic reform, and the establishment of civil and political rights for individuals and minority groups.

**(ACE 5) [ES] 343/843. American Urban and Social History I (3 cr) Prereq: Sophomore standing or permission.**

Survey and analysis of the impact of economic development and urbanization on the organization and character of American society from colonial times through the civil war. Analyzes the rise and transformation of the southern planter class and the slavery system which supported it; the development and change in character of both farmers and the urban working class; and the evolution of the northern, urban, middle class and its impact on all aspects of American life before the Civil War.

**[ES] 344/844. American Urban and Social History II (3 cr) Prereq: Sophomore standing or permission.**

Survey and analysis of the impact of metropolitan development, mass-oriented industrialization and economic development, and the modernization of values, ideas, and mores on American society between the Civil War and the recent past. Includes the breakdown of old criteria of class or group definitions and their replacement by newer, more impersonal, economic categories. Attention to the declining role of the farmer in American life, the rise and fall of elite "society", and the further development of mass-oriented middle and working classes after World War II.

**345. History of the American Presidency (3 cr) Prereq: Sophomore standing or permission.**

Historical origins of the modern American presidency; the president's role in domestic and foreign affairs; presidential power and its limits during the twentieth century; and the contemporary problems of the American presidency.

**[ES] 346. North American Environmental History (3 cr) Prereq: Sophomore standing or permission.**

Impact of culture, gender, politics, and economics on perceptions of and interactions with the natural environment of North America; analysis of the impact of the natural environment on the course of American history. Indian subsistence strategies, Euroamerican settlement, resource exploitation and management, creation of a national park system, environmental policy, and environmental movements.

**347. History of United States Foreign Relations to 1909 (3 cr) Prereq: Sophomore standing or permission.**

Survey of American foreign relations from 1774 to 1909. Problems of winning and maintaining independence; a century of expansion at home and overseas; Civil War diplomacy; the emergence of the United States as a world power.

**348. History of United States Foreign Relations Since 1909 (3 cr) Prereq: Sophomore standing or permission.**

Emphasis on American leadership in world affairs in the twentieth century; US relations with the Far East and Latin America; the breakdown of neutrality in two world wars; the search for collective security.

**[ES] 349/849. Ideas in America to the Civil War (3 cr) Prereq: Sophomore standing or permission.**

Survey of the history of ideas in America from the colonial era to the Civil War, emphasizing Puritanism, the Enlightenment, and Romanticism.

**[ES] 350/850. Ideas in America Since the Civil War (3 cr) Prereq: Sophomore standing or permission.**

Survey of the history of ideas in America from 1865 to the present, emphasizing the impact of Darwinism, the "Second Enlightenment," and the diverse currents of modern thought.

**351/851. American West to 1900 (3 cr) Prereq: Sophomore standing.**

History of indigenous peoples of the West, Euro-American, African American, Asian, and Latina and/or Latino settlements. The changing environment. Gender issues. Economic activities: fur trading, mining, ranching, farming, and lumbering.

**352/852. American West Since 1900 (3 cr) Prereq: Sophomore standing.**

History of the American West since 1900. History of race, class, and gender; urbanization and industrialization; political movements; population growth, new immigrations, and urban expansion; modern economic trends and environmental change; and the role of the federal government in the American West.

**353/853. From Progressivism to the Great Crash (3 cr) Prereq: Sophomore standing or permission.**

The Progressive Movement, Theodore Roosevelt and the New Nationalism, Wilson and the New Freedom, World War I, the Return to Normalcy, the Jazz Age, and the Great Crash.

**354/854. The Era of Franklin D. Roosevelt (3 cr) Prereq: Sophomore standing or permission.**

The Great Depression, Franklin D. Roosevelt and the New Deal, the road to Pearl Harbor, and World War II.

**355/855. Post-World War II America (3 cr) Prereq: Sophomore standing or permission.**

Surveys the major developments in domestic politics, in foreign affairs, and the economic, social, and cultural spheres from the end of World War II to the present.

**[ES] 356. Race and Ethnicity in the American West (ETHN 356) (3 cr) Prereq: Sophomore standing or permission.**

Examines the significance of race and ethnicity in the history of the American West. Attention paid to Native Americans, African Americans, Asians and Asian Americans, Mexicans and Mexican Americans, and European ethnic groups. Includes cross-group competition for land, resources, and political/cultural authority; gender roles; labor; the emergence of mestizo/métis communities; and popular culture/mythology of the West.

**[ES] 357. The History and Culture of the Mexican-American (ETHN 357) (3 cr) Prereq: Sophomore standing or permission.**

Survey of Mexican-Americans in the United States emphasizing the Spanish-Mexican borderlands frontier, Mexican-American culture, the Anglo-American conquest, and the cultural conflict and fusion since the treaty of Guadalupe-Hidalgo.

**359. The Mythic West (3 cr) Lec.**

Survey of the transformation of stories of the western United States from the late eighteenth century to the present. Exploration narratives, the frontier, literature, art, mass media, and images of territorial minorities, and migrant and immigrant populations.

**360. History of Nebraska and the Great Plains (3 cr) Lec. Prereq: Sophomore standing.**

History of the Great Plains region. Interaction of culture and the environment. History of various peoples of the Plains; economic developments: fur trade, transportation, ranching, and farming; political and social reform movements; and Nebraska's modern era within a regional context.

**[ES] 365. U.S. South (3 cr) Lec 3. Prereq: Sophomore standing.**

Development of a distinctive regional history from the seventeenth century encounter of Indian, European, and African peoples in the colonial period to the late twentieth century. The diversity of the regional and its peoples, and the social, political, economic, and cultural change.

**[ES] 375. Women and Work in United States History (ECON, WMNS 375) (3 cr) Le 3.**

For course description, see ECON 375.

[IS] 400/800. **Seminar in Great Plains Studies** (GEOG, GPSP 400/800) (3 cr) Prereq: A course in the study of the Great Plains. *GPSP/GEOG/HIST 400 is required for a GPSP major or minor.* For course description, see GPSP 400.

[IS] 402/802. **Sexuality in 19th and 20th Century America** (WMNS 402/802) (3 cr) Lec 3. Sexual practices and ideologies in American history from the 1800's to the present.

[IS] 411/811. **Indians in American Popular Culture** (ETHN 411) (3 cr) Lec 3. Prereq: Junior standing. Images of Native Americans in American popular culture. Dominant society's creation of images of Indians to serve societal needs. Reasons behind these creations, what purposes they served, and the enormous effect on white-Native relations. Covers art, literature, fiction, film, television, and sports "mascots."

[IS] 437/837. **African Americans and Racial Politics: 1932 to the Present** (ETHN 437) (3 cr) Lec. Prereq: Junior standing. Survey and analysis of the struggle of African Americans and their allies to topple white supremacy and gain access to the political process. The role race played in American politics from the New Deal through the Emergence of the New Right.

[IS] 441/841. **Women and Gender in the United States** (WMNS 441/841) (3 cr) Lec. Women's historical experiences. Gender ideologies in American history from 1500 to the present. Impact of Europeans on Native American gender roles; race, gender, and slavery; women, science, and medicine; and women's activism.

[IS] 442/842. **Antebellum America 1800-1850** (3 cr) Prereq: Junior standing or permission. American life during the first half of the nineteenth century, with special stress upon the nature of political processes, the many movements for the reform of society, the development of a national economy, and the rise of sectional conflict.

[IS] 445/845. **The American Civil War and Reconstruction** (3 cr) Prereq: Junior standing or permission. Development of the sectional crisis, war and its impact on American institutions, reconstruction and reunion, from 1850 to 1877.

[IS] 446/846. **America in the "Gilded Age"** (3 cr) Prereq: Junior standing or permission. Sectional adjustment, national politics, the "Gilded Age," economic growth, and the revival of imperialism in the period 1877 to 1901.

[IS] 447/847. **Family History of the U.S.** (3 cr) Prereq: Junior standing or permission. Examines broad trends that underlay American family history. Introduces theory, sources and methods of family history by exploring the impact of such demographic phenomena as population growth, immigration, racial and ethnic heritage, slavery and emancipation, marriage, gender, migration, fertility, and life expectancy.

[IS] 448/848. **History of Women and Gender in the American West** (WMNS 448/848) (3 cr) Prereq: Junior standing. The effect of colonialism on women and gender in the American West. The impact of Spanish, French, British, and American colonization on American Indian and Spanish and/or Mexican gender systems. Migration and immigration of Anglo, African American, and Asian women to the West; women's work and community life; and women's reform movements and activism.

[IS] 456/856. **Black and/or African-American Women's History** (ETHN 456, WMNS 456/856) (3 cr) Lec. Prereq: Junior standing. Surveys Black and/or African-American women's history from the fifteenth to the late twentieth century. The transatlantic slave trade, "New World" experiences, slavery and resistance, sexuality, cultural persistence and evolution, racial strife, the struggle for civil rights, and black womanist and feminist theories.

[IS] 457/857. **19th Century United States Economic History** (ECON 457/857) (3 cr) Prereq: ECON 210, or both 211 and 212. For course description, see ECON 457/857.

[IS] 458/858. **20th Century United States Economic History** (ECON 458/858) (3 cr) Lec 3. Prereq: ECON 211 and 212, or ECON 210. For course description, see ECON 458/858.

[IS] 459/859. **The Black West** (ETHN 459) (3 cr) Lec. Prereq: Junior standing. History of African-Americans in the American West. Surveys the period from Spanish settlement to the late twentieth century. Slavery and freedom in the West, western migration and settlement, Black Cowboys, "Black Indians", Buffalo Soldiers, black women's experiences, all-black towns, cultural persistence and evolution, racial strife, and the struggle for civil rights.

[IS] 460/860. **The Civil Rights Movement** (ETHN 460) (3 cr) Lec. Prereq: Junior standing. Survey and analysis of the origins, contours, activities, ideas, movement centers, personalities, and legacies of the Civil Rights and Black Power movements in the U.S.A. from the 1950's through the 1970's. The roles of the African-American masses, college and high school students, and women. The points of conflict and cooperation between African-American and mainstream American society. For course description, see HIST 456/856.

[IS] 463/863. **History of Canadian West** (3 cr) Lec. Prereq: Junior standing. Cultural encounters among Euro-Canadians, First Nations, Metis, and Asians. Political, social, and economic developments from the eighteenth century to the present. Relationships of peoples and environments particularly in logging, hunting, mining, and city building. Western cultural symbolisms to the Canadian nation and as a point of difference from its neighbors.

[IS] 464/864. **Native American History: Selected Topics** (ETHN 464) (3 cr) Prereq: Junior standing. Issues in Native American history. Topics may include: Native Americans and the environment; Native Americans in the nineteenth or twentieth century; Native Americans and federal Indian policy; Native Americans and gender; and Native Americans of regions other than the Great Plains.

[IS] 465/865. **History of Plains Indians** (ETHN 465) (3 cr) Prereq: Junior standing. In-depth study of the history and culture of Native Americans of the Great Plains from earliest times through the twentieth century, stressing the history of migration, religion, diplomacy, politics, and society. All Indian nations of the Great Plains considered.

[IS] 468/868. **Cultural History of Native America** (ETHN 468) (3 cr) Prereq: Junior standing. Cultures of the indigenous peoples of the United States in an historical context. World view, language, spiritual beliefs, kinship organization, gender roles, music, dance, and art. Historical causes and effects of the changing of Native cultures over time. Contrasts between Native American oral history and Western methods.

[IS] 474/874. **African-Americans in the Jazz Age** (ETHN 474) (3 cr) Lec 3. Prereq: Junior standing; a basic understanding of United States history is recommended. Race relations and African-American experience from the 1910s through WWII. Jim Crow, the Great Migration, WWI, "The New Negro," Harlem Renaissance, jazz/blues/gospel music, political radicalism, the Great Depression, and WWII.

## European History

(ACE 5) [ES] \$100. **Western Civilization to 1715** (3 cr) Explores topically the essential ideas and practices that have shaped the development of the Western World from the Greeks and Romans to the Enlightenment.

(ACE 5) [ES][IS] \$100H. **Honors: Western Civilization to 1715** (3 cr) Prereq: Good standing in the University Honors Program or by invitation or permission. For course description, see HIST 100.

(ACE 5) [ES] 101. **Western Civilization Since 1715** (3 cr) Analyzes on a topical basis the impact of social, economic, political, and intellectual changes upon Europe from the Enlightenment and describes the dramatic rise of Europe to prominence in the world and the equally dramatic demise of European domination in the twentieth century age of war and destruction.

(ACE 5) [ES][IS] 101H. **Honors: Western Civilization Since 1715** (3 cr) Prereq: Good standing in the University Honors Program or by invitation or permission. For course description, see HIST 101.

(ACE 5) [ES] \$209. **Ancient Greece** (3 cr)

From the Stone Age until the Roman conquest (2nd century BCE). The rise and fall of the city-state, types of government, relations with foreign peoples, class and gender issues, military matters and religion.

(ACE 5) [ES] \$210. **Ancient Rome** (3 cr) Lec.

From the Stone Age until the start of the Byzantine Empire (6th century CE). The expansion of Rome, military changes, social organization, gender studies, relations with foreign peoples, pagan religion, and Christianity.

(ACE 5) [ES] \$211. **History of the Middle Ages** (3 cr)

Transition from ancient to Medieval civilization; the so-called Dark Ages; the late Medieval Renaissance and the dawn of the modern era.

[ES] \$212. **History of Early Modern Europe: Renaissance to the French Revolution** (3 cr)

Beginning of the modern era, with much attention to the secularization of European society from the Renaissance through the Age of Enlightenment.

(ACE 5) [ES] \$220. **History of Christianity** (3 cr)

Impact of the Judeao-Christian tradition upon the development of Western civilization.

(ACE 5) [ES] 221. **Science in History** (3 cr)

Surveys the history of science from the Scientific Revolution of the sixteenth and seventeenth centuries to the present. Includes the birth of modern science; the theory of evolution; the revolution in physics; science and religion; and the relations of science and society.

[ES] 223. **Spain and the Spanish Heritage** (3 cr)

Important events and developments in Spanish history from earliest times to the present, with emphasis on those epochs of Spanish history that influenced most markedly the political and cultural life of both Europe and the Western Hemisphere.

(ACE 5) [ES] 231. **History of England: Stonehenge through the Glorious Revolution** (3 cr)

Survey of English institutions, with emphasis on the emergence of a hereditary monarchy, the evolution of parliament, the development of religious institutions, the English Reformation, and the overseas expansion of the empire through the seventeenth century revolutions.

(ACE 5) [ES] 232. **History of England Since the Glorious Revolution** (3 cr)

Development of the modern state and the empire; problems of a great power, industrialization and its aftermath; Britain in the contemporary world.

(ACE 5) [ES] \$261. **Russia to the Era of Catherine the Great** (3 cr)

Origins of Russia, the growth and decline of the Kievan State, the formation and development of Muscovy and Imperial Russia to the end of the eighteenth century.

[ES] 262. **Russia: The 19th and 20th Centuries** (3 cr)

Travails of Imperial Russia, both internal and external, that found their climax in the revolutions of 1917, and the efforts to implement the revolutionary mandate from 1917 to the present.

\$301. **Preindustrial Europe** (3 cr) Prereq: Sophomore standing or permission.

Evolution of social and occupational groups, *class* consciousness, and economic forms, as conditioned by technology and modes of production, and by the city as a human and political concept, from the Greeks to the Industrial Revolution.

[ES] \$307/807. **Early Christianity** (CLAS 307/807, RELG 307) (3 cr) For course description, see CLAS 307/807.

\$311. **The World of Homer** (3 cr) Prereq: Sophomore standing or permission.

Analysis of the Aegean Bronze Age and early Iron Age of ancient Greece based on examination of archaeological evidence, early written documents, and the writings of Homer and other early Greek authors. Includes the Minoan and Mycenaean civilizations, the excavation of Troy, Linear B and alphabetic Greek writing, gender roles and social classes, methods of warfare, religion, and political institutions.

[IS] \$315. **Medieval World: Byzantium** (CLAS 315) (3 cr)

For course description, see CLAS 315.

**§318. The Roman Empire** (3 cr) Prereq: Sophomore standing or permission.

Investigation of Roman imperial government from Augustus to Justinian, focused on the economy, state religion and the emergence of Christianity, the army, family and social classes, the division between the Greek East and Latin West, the Germanic invasions, and the establishment of the Byzantine Empire. Failure of the ancient world to solve its problems, leading to the end of classical civilization.

[IS] §321. **The Age of the Renaissance and Reformation** (3 cr)

Lec 3. Prereq: Sophomore standing.

Survey of cultural and intellectual developments from the dawn of the Italian Renaissance through the establishment of the Protestant Reformation in northern Europe. The decline of the church and the fragmentation of religious authority, the rise and spread of humanism, and the secularization of politics and culture.

**§322. The Age of the Baroque** (3 cr) Prereq: Sophomore standing or permission.

Beginning of the modern era, from the age of the Reformation to the dawn of the Enlightenment, focusing on the changing role of the post-reformation churches in European society, the rise of the absolutist state, the development of scientific thought, and the cultural and intellectual achievements of the Baroque.

**§323. Europe during the Old Regime** (3 cr) Prereq: Sophomore standing or permission.

Survey of continental European history from 1648 to the French Revolution; the nature of the absolute state; the growth of reform movements and their failure; the coming of the Revolution; the social history of ideas from Montesquieu to Rousseau.

**324. The Cold War** (3 cr) Lec 3. Prereq: Sophomore standing.

The outbreak and development of the Cold War to its conclusion in 1989. Origins, the nuclear arms race, and the Cold War in a divided Europe.

**325. France Since the French Revolution** (3 cr) Prereq: Sophomore standing or permission.

History of France in the nineteenth and twentieth centuries. Revolutions, of industrialization, of empire building, and an in-depth study of institutions and ideas that have characterized modern France and that have given her both power and influence in Europe.

**327. 19th Century Germany** (3 cr) Lec 3. Prereq: Sophomore standing.

Modern German history from the demise of the Holy Roman Empire (1806) to the end of World War I and the revolution in 1918. Political, economic, social, and cultural developments following German unification (1871).

**328/828. History of Germany: 1914 to Present** (3 cr) Prereq: Sophomore standing or permission.

Conflict and consensus in the history of Germany from World War I to the present. Emphasis on institutional, social, and political factors that helped shape Germany and the historical personalities—such as William II, Adenauer, and Brandt—who have led the Germans.

[ES] **329. Women in European History** (WMNS 329) (3 cr) Prereq: Sophomore standing or permission.

Survey of women in European history from the Middle Ages to the present. Themes include power relations, work, love and sexuality, marriage, legal issues for women, and growth of feminist consciousness.

**330. Contemporary Europe** (3 cr) Prereq: Sophomore standing or permission.

Europe since the Second World War. Problems of reconstruction, the origins of the Cold War, the division between East and West, and the search for new patterns. Europe's effort to build super-national institutions such as the Common Market and the changing relationship of individual states and the European continent with the outside world.

[IS] **332. Jews in the Middle Ages** (JUDS, RELG 332) (3 cr)

Prereq: Sophomore standing or permission.

Traces the emergence and development of a distinctive Jewish culture and identity in medieval Europe and in the regions bordering the Mediterranean sea from the birth of rabbinic Judaism under the Roman empire until the seventeenth century orthodox synthesis of Talmudic learning, Kabbalah, and custom and Jewish responses to the Enlightenment. Includes interaction of Jews with majority cultures (including the development of anti-Semitism), and the impact of Jews and Jewish learning upon western culture.

[ES] **333. Jews in the Modern World** (JUDS 333) (3 cr) Prereq: Sophomore standing or permission.

Examines the history of the Jewish people since the eighteenth century with geographical foci on Europe, North America, and the Middle East. Emphasis on the Jewish Enlightenment, emancipation and assimilation, anti-Semitism, migration to and adaptation in America, Zionism and the modern state of Israel.

**336. The British Empire and Commonwealth** (3 cr) Prereq: Sophomore standing or permission.

Survey of the development of the British Empire in the nineteenth century and its transformation into the Commonwealth of Nations in the twentieth century. Attention to the responses of indigenous peoples to British rule, the nature of imperialism, and the transfer of cultural institutions and values. India, Australia, South Africa, Canada, Egypt, and the West Indies included.

**338/838. War and Peace in Europe: 1914 to the Present** (3 cr)

Prereq: Sophomore standing or permission.

Survey of the diplomatic and military history of Europe from World War I to the present. Includes the strategy, tactics, and diplomacy of the two world wars; international relations in the years between the wars; the emergence of a new postwar Europe; and Europe's involvement in the rivalry between the superpowers since 1945.

[ES] **339/839. The Holocaust** (3 cr) Prereq: Sophomore standing or permission.

Europe-wide programs of persecution and genocide carried out under the auspices of the Nazi-German regime between 1933 and 1945. Focuses primarily on the Jewish dimension of the Holocaust, but also examines Nazi policies targeted against Poles, Gypsies, homosexuals, disabled Germans, and other groups. Events analyzed from the perspectives of victims, perpetrators, and bystanders.

**361. Czech History and Culture** (3 cr) Lec 3. Prereq: Sophomore standing or permission.

Czech history and culture from the Revolution of 1848 to the present. The reign of Hapsburg Emperor-King Francis Joseph (1848-1916), World Wars I and II, the Cold War, and the successor states of Czechoslovakia and the Czech Republic.

**§362. Eastern Europe and the Balkans Since 1815** (3 cr) Prereq: Sophomore standing or permission.

Growth of modern nationalism in the face of various pan-movements. Eastern Europe and the Balkans as both tools and objects of the Great Powers. Search for identity in the twentieth century and the status of these countries in the modern world.

[ES][IS] **§409/809. Religion of Late Western Antiquity** (CLAS 409/809, RELG 409) (3 cr)

For course description, see CLAS 409/809.

[IS] **§412/812. City States in Classical Greece** (3 cr) Prereq: Junior standing or permission.

Development and influence of the Greek city-states, focusing on Athens and Sparta in the 6th, 5th, and 4th centuries BCE: Social and constitutional foundations for the Athenian democracy and Spartan oligarchy, sources of conflict between these two major powers, and reasons for the decline of city-states in general.

[IS] **§414/814. Medieval Culture** (3 cr) Prereq: Junior standing or permission.

Historical context of changes in religion, literature, philosophy, and the arts, 400-1450.

[IS] **§417/817. The Roman Revolution, 133 BCE-68 CE** (3 cr)

Prereq: Junior standing or permission.

Critical period in Roman history when the republic was transformed into the rule by one man: Political and social functioning of the republic, causes for change, and factors influencing its final shape. Careers of the Gracchi, Marius, Sulla, Pompey, Caesar, Antony, and Augustus.

[IS] **418/818. Augustan Roman** (3 cr) Lec 3. Prereq: HIST 100/100H or 210.

Augustus' constitutional transformation of Rome, and enforcement of a national identity and values through religion, social legislation, provincial governance policies, and patronage of public works, display, and literature.

[IS] **§420/820. The Italian Renaissance** (3 cr) Prereq: Junior standing or permission.

Examines the intellectual and artistic achievements of the Italian Renaissance, relating them to the political developments and social changes which occurred throughout the Italian peninsula

between ca. 1300-1550 and highlighting those elements which would influence the evolution of European culture. Emphasis on the development of humanism and its role in the transition from medieval to modern values.

[IS] **§421/821. The German Reformation** (3 cr) Lec 3. Prereq: Junior standing.

The cultural and intellectual developments of the German Reformation against its social background. The religious and political events of the first half of the sixteenth century. Transition from medieval to modern Christianity. The transmission and revolutionary nature of evangelical doctrines. The gradual institutionalization of the new churches.

[IS] **§422/822. The Scientific Revolution** (3 cr) Prereq: Junior standing or permission.

Emergence of modern science in the sixteenth and seventeenth centuries and the impact of this new intellectual force on the social, political, and scientific thought of the Enlightenment. Philosophical, religious, and social background to the Scientific Revolution examined closely, and the institutional bases of the new science considered. Attention to the role of mysticism and alchemy in the rise of modern science and to the relationship between science and religion which developed during the period of the Scientific Revolution. Personalities and careers of some of the great scientists of the age—Copernicus, Galileo, Newton—used to illuminate these and other issues.

[IS] **§423/823. The European Enlightenment** (3 cr) Prereq: Junior standing or permission.

Survey of European intellectual history from Locke and Bayle to Kant and Condorcet. Attempts to arrive at a definition of the Enlightenment through examination of both the writings of the philosophers and through secondary literature. Seeks to comprehend the Enlightenment in its social and political as well as its intellectual content.

[IS] **§424/824. European Social and Cultural History Since 1815** (3 cr) Prereq: Junior standing or permission.

European society and culture from the Enlightenment to the present with emphasis on institutions, ideas, and artistic expression.

**429/829. History of Fascism in Europe** (3 cr) Prereq: Junior standing or permission.

Comparative study of the rise of fascism in Europe during the twenties; the drift to totalitarianism and the transition to dictatorship. Evolution of domestic and foreign policy to 1945.

[IS] **§430/830. Early European History Through Biography** (3 cr) Prereq: Junior standing or permission.

Individuals from late medieval/early modern Europe, such as Joan of Arc, Henry V, and Eleanor of Aquitaine. Examines how history can be used to serve social, cultural, and political needs, and the difficulties of determining historic truth about a person or event.

[IS] **§431/831. Medieval England** (3 cr) Prereq: Junior standing or permission.

Political, social, economic, institutional, and intellectual history of England from the Roman invasions through the accession of the Tudor dynasty in 1485.

[IS] **§432/832. England: Reformation to Revolution, 1530-1660** (3 cr) Prereq: Junior standing or permission.

History of English society, politics, and culture from the time of Henry VIII through that of Elizabeth I, Shakespeare, Donne, Charles I, Cromwell, and Milton.

[IS] **§433/833. England: Restoration to 1789** (3 cr) Prereq: Junior standing or permission.

History of English society, politics, and culture from the time of Charles II through the Glorious Revolution to the reign of George III.

[IS] **434/834. England in the Victorian Age** (3 cr) Prereq: Junior standing or permission.

Emphasis on the major social and cultural forces that shaped Victorian life.

[IS] **435/835. 20th Century England** (3 cr) Prereq: Junior standing or permission.

Emphasis on the major social and cultural forces which have molded English life in the present century.

[IS] **§436/836. Saints, Witches, and Madwomen** (WMNS 436/836) (3 cr) Prereq: Junior standing or permission. Image of the madwoman throughout European and American history. Emphasis on how women on the margins have been labelled in different periods as saintly, as witches, or as insane.

[IS] **461/861. The Russian Revolution** (3 cr) Prereq: Junior standing or permission. Political, economic, social, and intellectual roots of the Russian Revolution of 1917, the transformation from liberal to Bolshevik leadership, and the establishment of the USSR.

[IS] **462/862. Recent Russia** (3 cr) Prereq: Junior standing or permission. Fifty years of effort at implementing the mandate of the so-called "October Revolution" both domestically and in foreign affairs. The Soviet Union today.

## Latin American, Asian, Middle Eastern or African History

(ACE 9) [ES][IS] **120. World History to 1500 CE** (3 cr) Lec 2, rec 1. General patterns of human experience beginning with earliest human communities: modes of production, structures of power, and systems of belief. The similarities and differences that exist among the world's major regions and cultural traditions.

(ACE 9) [ES][IS] **121. World History Since 1500 CE** (3 cr) Lec 3. General patterns of human experience in the rise of the modern world: modes of production; structures of power; and systems of belief. The similarities and differences that exist among the world's major regions and cultural traditions.

(ACE 9) [ES] **150. African Culture and Civilization** (ETHN 150) (3 cr) Broad interpretive survey of the major features that have shaped modern African life.

(ACE 9) [ES] **171. Latin American Culture and Civilization** (ETHN 171) (3 cr) Topical and analytical survey of the development of Latin American culture and civilization. Race relations, war and peace, and the struggle for a better life.

(ACE 9) [ES] **§181. Introduction to East Asian Civilization** (POLS 171) (3 cr)

Survey of the traditional cultures and modern history of China and Japan. Emphasis on political systems, intellectual and religious history, and cultural developments.

(ACE 9) [ES] **217. Israel: The Holy Land** (JUDS, RELG 217) (3 cr)

Survey of the history of the Land of Israel from Biblical times to the present. Includes Roman and Byzantine rule, the Crusades, Islamic Palestine, Zionism and the modern state of Israel, and the religious importance of the land for Judaism, Christianity, and Islam.

(ACE 9) [ES] **218. History of Islam** (3 cr)

Survey of Islam's development from its origins to the present. Includes Islamic theology, art, and literature, the structure of traditional Islamic societies, and the changing role of Islam in the modern world.

(ACE 9) [ES] **219. Introduction to Jewish History** (JUDS, RELG 219) (3 cr) Lec 3.

Survey of the history of the Jewish people from Biblical times to the present. The Old Testament, Ancient Israel, the Talmud, the relationship to Christianity and Islam, persecution and self-government in the middle ages, Jewish philosophy and mysticism, emancipation, modern anti-Semitism, the Holocaust, Zionism, the modern state of Israel, and the Jewish experience in America.

[ES] **§271. The Latin American Colonies** (3 cr)

Survey of the Spanish and Portuguese colonies in the New World, with stress upon the European background, exploration, settlement, institutions, and the struggle for independence.

[ES] **272. The Latin American Republics** (3 cr)

Survey of the evolution of the Latin American nations since independence, with stress upon political, economic, and social problems.

(ACE 9) [ES] **282. Modern East Asia** (3 cr) Emphasis on problems deriving from relations with the West, the industrialization effort, growth of nationalism, militarism, democracy, and communism.

**326. Algeria and France** (3 cr) Lec 3. Prereq: Sophomore standing.

From the conquest of Algeria in 1830 to the modern day. Islamic resistance to European occupation, the development of a settler society and strategies of European colonialism, the emergence of the Algerian nationalist movement, revolution and the war of independence (1954-62), postcolonialism, history and memory, and current immigration debates in France.

[ES] **§331. Ancient Israel** (CLAS, JUDS, RELG 331) (3 cr) Prereq: Sophomore standing or permission.

The cultural, social, and religious institutions of Ancient Israel from their antecedents in the Late Bronze Age until the Great Jewish Revolt and the beginning of Rabbinic Judaism. Literary works and material remains of the Israelites, and evidence from surrounding cultures.

[ES] **§370. Colonial Mexico** (ETHN 370) (3 cr) Lec 3. Prereq: Sophomore standing. *HIST/ETHN 370 is a pre-1800 course.*

From the preconquest (thirteenth century) to independence (1821). The foundation and development of political, social, economic, and religious patterns.

[ES] **371. Modern Mexico** (ETHN 371) (3 cr) Lec 3. Prereq: Sophomore standing.

Analysis of the social, economic, and political development of Mexico from 1821 to the present, emphasizing the Revolution of 1910, its background and aftermath.

[ES] **372/872. Revolutions in 20th Century Latin America** (3 cr) Prereq: Sophomore standing or permission.

Examines revolutionary movements from the Revolution of 1910 in Mexico to the more recent upheavals in Central America. Aside from case studies of selected countries, topical subjects covered, such as militarism, communism, nationalism, anti-Americanism, religion and the role of the Church, land, and unequal distribution of wealth.

[ES] **§381/881. History of Premodern Japan** (3 cr) Prereq: Sophomore standing or permission.

Analysis of premodern Japanese society with emphasis on institutional and cultural developments.

[ES] **382/882. History of Modern Japan** (3 cr) Prereq: Sophomore standing or permission.

Establishment of a modern state; foundations of economic power; liberalism and oligarchical rule; militarism; post-World War II developments.

[ES] **§383/883. History of Premodern China** (3 cr) Prereq: Sophomore standing or permission.

History of China to 1800 with emphasis on intellectual history (Confucianism, Taoism, Buddhism, Neo-Confucianism) and the political, economic, and social development of the Chinese empire (221 BCE to 1800 CE).

[IS] **466/866. Early Modern China** (3 cr) Prereq: Junior standing. China during the last dynasty, the Qing, 1644 to 1911. Conquest and unification of China by the Manchus. Role of Confucianism in Chinese society. The growth of population during the eighteenth century. Rise of the opium trade. The Opium War. The Taiping Rebellion and reform efforts.

[IS] **467/867. History of China in the 20th Century** (3 cr) Prereq: Junior standing.

Collapse of the old Confucian Imperial system, Boxer Rebellion, 1922 Revolution, warlordism, rise of Communism, the Sino-Japanese war (1937-1945), Communist Revolution and Chairman Mao, Cultural Revolution, and Deng Ziaoping's reforms.

**469/869. Global Environmental History** (3 cr) Lec. Prereq: Junior standing.

Past interactions among societies and nature in a comparative world perspective. Indigenous peoples' resource management; ecological impacts of colonization; how political economies shape resource use; changing ideas about nature; and the historic roots of current environmental problems and possible solutions.

[IS] **471/871. Latin America and the Outside World** (3 cr) Prereq: Junior standing or permission.

Analysis of the role of the Latin American nations in world affairs, emphasizing intellectual, economic, and diplomatic

relations with the United States and Europe. Understanding of the position and problems of Latin America in the present world.

**§473/873. Spanish-American Colonial Institutions** (3 cr) Prereq: Junior standing or permission.

Selected political, economic, and social institutions during the three centuries of Spanish rule in America.

[IS] **475/875. History of Brazil** (3 cr) Prereq: Junior standing or permission.

History of Brazil from 1500 to the present, emphasizing political institutions, economic cycles, social structure, and religious and cultural patterns.

[IS] **478/878. Pro-seminar in Latin American Studies** (LAMS 478, ANTH, EDPS, GEOG, MODL, POLS, SOCI 478/878) (3 cr, max 6) Prereq: Junior standing and permission. *Topical seminar required for all Latin American Studies majors.* For course description, see ANTH 478/878.

**477/877. Indigenous Peoples of the World** (ETHN 477) (3 cr) Lec 3. Prereq: Junior standing.

Indigenous peoples worldwide and current issues concerning them. Tribal sovereignty, territorial conflicts, globalization, ecosystem destruction, human rights, and the World Indigenous Movement.

**480/880. The Social and Economic History of China Since the Late Ming Era.** (3 cr) Prereq: Junior standing or permission; HIST 181 or 281 or 383 or 384; or permission.

Analysis of the major social and economic changes in China during the previous six centuries. Includes the rapid growth of China's population, changes in family structure and peasant life, the development of China's commerce, China's relationship with the world economy, popular religion in China, and the social and economic transformation of China during the communist era.

[ES][IS] **485/885. Africa Since 1800** (ETHN 485) (3 cr) Prereq: Junior standing or permission.

Beginning with a description of African societies in the nineteenth century, focus is upon African responses to European contact and control, the nature of the colonial systems, and the emergence of new independent states in the twentieth century. Using historical and literary sources, stresses Africa's cultural and social history as well as its political and economic development. Special study units given on the Portuguese territories, Rhodesia, and South Africa.

[ES] **486/886. History of South Africa** (ETHN 486) (3 cr) Prereq: Junior standing.

Survey of the history of South Africa from the Stone Age to the evolution of the political, economic, legal and social framework of apartheid, and the recent efforts to achieve political accommodation.

**490/890. Topics in World History** (3 cr, max 15) Lec 3. Prereq: Junior standing. Topic varies.

## Courses that may be United States History, European History, or Latin American, Asian or African History depending on the subject matter (See the History Department's Chief Adviser)

[ES][IS] **182. Alpha Learning Community Freshman Seminar** (3 cr) Prereq: Admission to the Alpha Learning Community Program. Topic varies.

**(ACE 5) [ES][IS] 189H. University Honors Seminar** (3 cr)

Prereq: Good standing in the University Honors Program or by invitation. *University Honors Seminar 189H is required of all students in the University Honors Program.* Topic varies.

**198. Special Topics in History** (1-4 cr)

Includes freshman seminars.

**298. Special Topics in History** (1-3 cr)

Topics vary each term.

**396. Special Problems** (1-4 cr, max 24) Prereq: Permission.

**397. Special Topics in History** (2-3 cr) Prereq: Sophomore standing.

Topics vary.

**479/879. Pro-seminar in International Relations I** (AECN \*467; ANTH 479/879; ECON, POLS, SOCI 466/866; GEOG 448/848) (3 cr) Prereq: Permission. *Open to students with an interest in international relations.*

For course description, see POLS 466/866.

**494. Readings Course** (1-24 cr, max 24) Prereq: Senior standing.

**\*894. Directed Readings** (1-24 cr, max 24) Prereq: Permission.

**899. Masters Thesis** (6-10 cr)

## Additional History Courses

[ES] 222. **History of Sport** (3 cr)

Historical examination of the interrelationship of sport and society from ancient Greece to twentieth century America.

(ACE 9) [ES] 225. **Women in History** (WMNS 225) (3 cr) Lec 3. Survey of the role and status of women within Western societies from ancient Greece and Rome to contemporary America, with the major focus upon nineteenth and twentieth century developments. Primary emphasis on analysis of the evolution of the position of women in society within the context imposed by cultural milieu, level of technological development, political and economic structure, family structure, and social class.

(ACE 5) [ES] 228. **History of Medicine in Western Society** (3 cr) Lec 3.

Survey from classical antiquity to the present. The education of practitioners, locations of healing, theories of health and disease, and medical practices in the context of social, economic, and political change.

[IS] 288. **Introduction to Historical Methods** (3 cr) Lec 3. Prereq: HIST major.

Introduction to methods used in the research and writing of history. Developing library skills, finding sources, analyzing documents, compiling bibliographies, writing book reviews, and preparing a term paper.

**398. Internship in History** (3 cr) Prereq: Permission of the chief adviser in the history department. *Pass/No Pass only.* Internship program involving community, state, or federal institutions.

**399H. Honors Thesis** (3 cr) Ind. Prereq: HIST 288; Candidate for degree with distinction or with high distinction or with highest distinction in the College of Arts and Sciences; Good standing in the University Honors Program or by invitation. *HIST 399H is 'Letter grade only.'*

[IS] 470/870. **Digital History** (4 cr) Lec 3. Prereq: Junior standing. Analysis of the theory, methods, and readings in humanities computing and digital history.

[IS] 487. **The Nature of History** (3 cr) Prereq: Junior standing or permission.

Reading seminar on the nature of history dealing with the question of what is history, types of historical interpretation, common problems of historians, the uses of history, and the importance of history for other disciplines all of which illustrated by the writings of selected major historians and historical thinkers.

Refer to the Graduate Bulletin for 900-level courses.

## Human Rights and Human Diversity

### (Minor Only)

**Director and Advisor: Ari Kohen/Brian Lepard**, 537 Oldfather Hall

**Faculty:** Coble (history), Forsythe (political science), Kleimola (history), Levin (history), McCollough (anthropology and geography), McMahon (political science), Osborn (anthropology and geography), Paz

(history), Rapkin (political science), Smith (history), Steinweis (history), van Roojen (philosophy), Wedeman (political science)

The Human Rights and Human Diversity Program is an interdisciplinary program with an international focus. This minor is for students with an interest in international human rights, the development of the idea and practice of human rights over time, and in the political and philosophical tensions that arise between the protection of human rights and other goals, like the idea of respecting cultural diversity, maintaining a national identity, or protecting the security of citizens.

## Requirements of the Minor in Human Rights and Human Diversity

- 18 hours taken as follows:
  - 9 hours of courses from List A and 6 additional hours from List A or List B
  - 3 hours of capstone courses

Courses must be taken from at least two different departments. Cross-listed courses count in the instructor's department. If a course is taken as a capstone course, it may not also meet other requirements within the minor. Courses using the Pass/No Pass option do not count toward this minor.

### List A

- ANTH 451. Contemporary Issues of Indigenous People in North America (ETHN 451)  
 ANTH 476. Human Rights, Environment & Development  
 HIST 329. Women in European History (WMNS 329)  
 HIST 339. The Holocaust  
 HIST 486. History of South Africa (ETHN 486)  
 POLS 281. Challenges to the State: Non-State Actors in World Politics  
 POLS 362. Globalization, Human Rights & Diversity  
 POLS 386. Truth & Progress  
 POLS 469. International Law  
 POLS 470. International Human Rights  
 POLS 472. State Terror

### List B

- ANTH 420. Ethnic Identity & Ethnic Conflict  
 ENGL 445. Ethnic Literature (ETHN 445) (*when taught as studies in the African Diaspora*)  
 HIST 225. Women in History (WMNS 225)  
 HIST 241. Native American History (ETHN 241)  
 HIST 333. Jews in the Modern World (JUDS 333)  
 HIST 423. The Enlightenment  
 HIST 429. History of Fascism in Europe  
 HIST 464. Native American History: Selected Topics (ETHN 464)  
 HIST 478. Pro-Seminar in Latin American Studies (ANTH/GEOG/LAMS/POLS/SOCI 478)  
 HIST 480. History of China since the Late Ming Era  
 MODL 454. Anti-Semitism in Russia & the West  
 PHIL 221. Political Philosophy  
 PHIL 325. Advanced Social Political Philosophy or  
 PHIL 425 Political & Social Philosophy  
 POLS 361. The United Nations & World Politics  
 POLS 384. Liberalism & Its Critics  
 POLS 476. Ethnic Conflict & Identity (JUDS 476)  
 POLS 477. Israel & the Middle East (JUDS 477)

### Capstone Courses

- ANTH 476. Human Rights, Environment & Development  
 POLS 470. International Human Rights

## Humanities in Medicine

### (Minor only)

**Faculty Coordinator:** Susan Lawrence (history)  
**Advisers:** Sayer, Glenn (pre-health advising)

This interdisciplinary minor draws on a variety of fields in the humanities and social sciences to support students' learning about the social and cultural contexts that inform understandings of health, illness and healthcare. This minor will be of particular interest to students preparing for careers in a health-related profession, but will also have much to offer any student interested in examining an important part of the human experience from multiple perspectives and developing a critical understanding of this aspect of society.

## Requirements for the Minor in Humanities in Medicine

- 18 hours of course work with the following distribution:
  - 3 hours of directed experience (HMED 397)
  - 3 hours from the list of core courses
  - 12 hours from the list of elective courses, with at least one course at the 300 or 400 level
- Credits earned using the Pass/No Pass option do not count towards this minor.
- A course may be used to satisfy either the core requirement or the electives requirement but not both.
- Other courses, not listed as electives, particularly special topics courses or honors courses with a relevant focus may be applied toward the minor by permission of an HIM adviser or coordinator.

### Required (3 hours):

- HMED 397. Directed Experience in Health Care (3 cr)

### Humanities in Medicine core (3 hours):

- ENGL 210I. Illness & Health in Literature  
 HIST 221. Science in History  
 HIST 228. History of Medicine in Western Society  
 PHIL 213. Medical Ethics  
 RELG 225. Science & Religion

### Humanities in Medicine electives (12 hours):

- ANTH 422. Medical Anthropology  
 ANTH 472. Belief Systems in Anthropological Perspective  
 CLAS 233. Science in the Classical World  
 COMM 354. Health Communication  
 ECON 389. Current Economic Issues: Health Care\*  
 ENGL 210I. Illness & Health in Literature  
 GERO 200. Intro to Gerontology  
 GERO 307. Death & Dying  
 GERO 435. Politics & Aging  
 GERO 446. Psychology of Adult Development & Aging  
 HIST 221. Science in History  
 HIST 228. History of Medicine in Western Society  
 HIST 320. History of American Medicine  
 HIST 402. Sexuality in 19th & 20th Century America

HMED 396. Humanities in Medicine: Special Topics  
 PHIL 213. Medical Ethics  
 PHIL 317. Philosophy of Science  
 PHIL 320. Ethical Theory  
 POLS 250. Genetics, Behavior & Politics  
 POLS 426. Topics in American Public Policy: Health Politics\*  
 PSYC 270. Evolution, Behavior & Society  
 PSYC 428. Health Psychology  
 RELG 225. Science & Religion  
 SOCI 453. Sociology of Health & Health Professions  
 WMNS 201. Intro to GLBTQ Issues  
 WMNS 385. Women, Gender & Science  
 \*Topics in these courses vary, so these classes count only when health care topics are the main focus of the course.

## Courses of Instruction (HMED)

396. Special Topics (3 cr, max 6) Lec 3.  
 Special topics for Humanities in Medicine.

397. Directed Experience in Health Care (1-3 cr, max 3) Fld.  
 Prereq: Humanities in Medicine program scholar; HMED minor or HMED certificate candidate. *HMED 397 requires designing, shadowing, or volunteer activities, with supplementary reading and writing, in consultation with the HMED Program Director.*  
 Active experience in a health-care setting.

## Individualized Program of Studies (IPS)

Coordinator: Arts and Sciences Advising Center, 107 Oldfather Hall

The College of Arts and Sciences major or minor in Individualized Program of Studies allows a student to design an academic program to pursue a special interest not covered by the established majors or minors offered by the College. A proposal must be interdisciplinary, (that is, come from more than one department), and center on a clearly defined problem area, a defined body of thought, a specific area of interest, or a specific educational goal. The program is not intended to allow students to graduate without concentrating their thoughts in some clearly defined pattern. Students intending to pursue graduate work should be sure that this particular program will meet admission requirements. Students also should be sure that the University has the resources (faculty interest and expertise) to support the anticipated Individualized Program of Studies major. Each major or minor is essentially "custom-made" to meet specific individual needs. However, the following list of titles of approved programs gives an idea of some of the opportunities: biomedical illustration, adolescent studies, forensic studies, biopsychology, and hospital administration.

Students with interests or educational objectives that cannot be met by a traditional major or minor, span more than one of the College's traditional departmental divisions, and whose interests and objectives can be expressed in terms of some defined problem area or topic are encouraged to consider this major or minor option. For more information, interested students should contact the Arts and Sciences Advising Center, 107 Oldfather Hall.

**Procedure.** An Individualized Program of Studies proposal must be submitted on a form available in the Arts and Sciences Advising Center, 107 Oldfather Hall. The student must find a faculty member from the core department in Arts and Sciences to act as the adviser. The student and the academic adviser are responsible for coordinating the program with other concerned departments. The proposal, with a title, description and justification for the topic, must be approved and signed by the adviser, the core department chair, and the College Curriculum Committee. The program must be approved by the College Curriculum Committee before the student completes 90 of the 125 (or 130) applicable hours toward the degree. Forms are available in the Arts and Sciences Advising Center, 107 Oldfather.

**NOTE:** Individualized Program of Studies is a major or minor. Therefore, in addition all other College degree requirements must be fulfilled.

## Requirements for the Major in Individualized Program of Studies

1. Selection of at least 48 hours of courses from more than one Arts and Sciences department representing an integrated study of some area, topic, or problem.
2. A Core Department: At least 15 of the 48 or more hours must be in one department in the College.
3. At least half of the 48 hours (24 hours) must be from the College of Arts and Sciences. Courses outside the College of Arts and Sciences may be applied to the 48 hours when they contribute directly and necessarily to the program.
4. The Program must be approved by the College Curriculum Committee before the student completes 90 of the 125 (or 130) applicable hours toward the degree.

## Requirements for the Minor in Individualized Program of Studies

1. Selection of at least 24 hours of courses from more than one Arts and Sciences department representing an integrated study of some area, topic, or problem.
2. A Core Department: At least 9 of the 24 or more hours must be in one department in the College.
3. At least half of the 24 hours (12 hours) must be from the College of Arts and Sciences. Courses outside the College of Arts and Sciences may be applied to the 24 hours when they contribute directly and necessarily to the program.
4. The Program must be approved by the College Curriculum Committee before the student completes 90 of the 125 (or 130) applicable hours toward the degree.

**Pass/No Pass.** A maximum of 6 hours of Pass/No Pass (P/N) credit is allowed in courses taken to fulfill the requirements of the major or the minor.

## International Studies

**Director:** Ross Miller, 307 Seaton Hall

**Chief Adviser:** Kristina Miller, 314 Seaton Hall

**Faculty:** Ambrosius (history), LeSueur (history), McMahon (political science), MacPhee (economics), Olds (modern languages & literatures), Peterson (agricultural economics), Shirer (modern languages and literatures)

This program offers a major in international studies based on an interdisciplinary curriculum. The course of study concentrates on three tracks which are thematic specializations:

- Power and Production
- International Relations
- Cultural Encounters

The emphasis of the major is an holistic approach to international issues that will lead the student to a higher level of analytical competence. It will include relations between states such as war and diplomacy; global concerns, such as the environment and the displacement of peoples; international organizations, such as the United Nations and transnational corporations; and cultural encounters, such as social, linguistic and aesthetic interactions.

The program will be supervised by the International Studies Committee of the College of Arts and Sciences. All students interested in the program should consult with the director or the chief adviser.

**Pass/No Pass.** Students are required to obtain permission from the chief adviser to take major or minor courses for Pass/No Pass credit. Request forms are available in the Arts and Sciences Advising Center, 107 Oldfather Hall.

## Requirements for the Major in International Studies

- 36 credit hours, with no more than half the courses in one department and at least 12 hours at the 300/400 level. The 36 hours must be distributed across the categories outlined below; courses applying to Category D will normally also serve to fulfill the requirements of Category E. These specializations should be determined in consultation with the chief adviser.

**Core Courses:** 6 hrs

**Foreign Language:** 6 hrs

**Global Competency:** 6 hrs

**Regional Specialization:** 9 hrs

**Thematic Specialization:** 15 hrs/two tracks

**International Studies Seminar or Senior Thesis**

### Core Courses: 6 hours from two of the following:

ANTH 212. Intro to Cultural Anthropology

GEOG 140. Intro to Human Geography

HIST 120. World History to 1500 CE or HIST 121

World History Since 1500 CE

POLS 160. International Relations

**Foreign Language: 6 hours**

This requirement can be met through the following means:

- 6 hours of modern foreign language study (excluding literature in translation) beyond 202 or 210; or
- 6 hours of modern foreign language study from other accredited institutions in cases where the language is not offered at UNL or not offered at the desired level of proficiency; or
- 6 hours or equivalent of course work (outside of modern languages or classics) with language of instruction other than English (upon approval of program adviser)

**Global Competency: 6 hours**

This requirement can be met through the following means:

- Study abroad (which might include appropriate language immersion program); or
- Internship abroad (INTS 395 Internship in International Studies); or
- Internship for governmental or private agency involved in international issues (upon approval of program adviser) (INTS 395 Internship in International Studies); or
- Modern Language study (excluding literature in translation) at the 300 or 400 level (these courses are in addition to courses taken to satisfy Category B.)

**Regional Specialization: 9 hours in one of the following areas:**

The courses that fulfill this requirement are listed in the relevant area studies programs in the College of Arts and Sciences.

- Africa (see minor in African Studies)
- Asia (see minor in Asian Studies)
- Europe (see minor in European Studies)
- Latin America (see major in Latin America Studies)

**Thematic Specialization: 15 hours/two tracks**

This requirement can be met by taking 15 hours to be distributed in two of the following tracks:

- Power and Production
- International Relations
- Cultural Encounters

**International Studies Seminar or Senior Thesis: 3 hours**

This requirement can be fulfilled by taking an International Studies Seminar or by completing a senior thesis approved by the International Studies Committee.

**Requirements for the Minor in International Studies**

- 18 credit hours, with no more than half the courses in one department, and at least 9 hours at the 300/400 level.

**Core Course: 3 hrs**

**Regional Specialization: 6 hrs**

**Thematic Specialization: 9 hrs**

**Core Course: 3 hours from the following:**

- ANTH 212. Intro to Cultural Anthropology
- GEOG 140. Intro to Human Geography
- HIST 120. World History to 1500 CE or HIST 121. World History Since 1500 CE
- POLS 160. International Relations

**Foreign Language:**

Foreign language study is not required for the minor. However, the student may apply up to 6 hours of foreign language study beyond the 202/210 level.

**Regional Specialization: 6 hours in one of the following areas:**

The courses that fulfill this requirement are listed in the relevant area studies programs in the College of Arts and Sciences.

- Africa (see minor in African Studies)
- Asia (see minor in Asian Studies)
- Europe (see minor in European Studies)
- Latin America (see major in Latin America Studies)

**Thematic Specialization: 9 hours tracks**

This requirement can be met by taking 9 hours from the following tracks:

- Power and Production
- International Relations
- Cultural Encounters

**International Studies**

Thematic Specialization: 15 hours in two of the following tracks:

**1. Power and Production**

- ANTH 350. People & Cultures of Native Latin America
- ANTH 362. Peoples & Cultures of Africa
- ANTH 363. Peoples & Cultures of the Arctic Regions
- ANTH 366. Peoples & Cultures of East Asia
- ANTH 438. Topics in Old World Prehistory
- ECON 323. The Economic Development of Latin America

- ECON 388. Comparative Economic Systems
- ECON 423. Economics of the Less-Developed Countries

ECON 487. Economies in Transition

GEOG 375. Geography of Asia

GEOG 378. Geography of Latin America

HIST 100. Western Civilization to 1715

HIST 101. Western Civilization Since 1715

HIST 150. African Culture & Civilization

HIST 171. Latin American Culture & Civilization

HIST 181. Intro to East Asian Civilization

HIST 211. History of the Middle Ages

HIST 212. History of Early Modern Europe:

Renaissance to the French Revolution

HIST 231. History of England: Stonehenge through the Glorious Revolution

HIST 232. History of England Since the Glorious Revolution

HIST 261. Russia to the Era of Catherine the Great

HIST 262. Russia: The 19th & 20th Centuries

HIST 271. Latin American Colonies

HIST 272. The Latin American Republics

HIST 282. Modern East Asia

HIST 301. Preindustrial Europe

HIST 321. The Age of the Renaissance & Reformation

HIST 322. The Age of the Baroque

HIST 323. Europe During the Old Regime

HIST 325. France Since the French Revolution

HIST 327. History of Germany: 1770-1914

HIST 328. History of Germany: 1914 to Present

HIST 329. Women in European History

HIST 330. Contemporary Europe

HIST 333. Jews in the Modern World

HIST 339. The Holocaust

HIST 362. Eastern Europe & the Balkans Since 1815

HIST 370. Colonial Mexico

HIST 371. Modern Mexico

HIST 372. Revolution in 20th Century Latin America

HIST 381. History of Premodern Japan

HIST 382. History of Modern Japan

HIST 383. History of Premodern China

HIST 420. The Italian Renaissance

HIST 421. The German Reformation

HIST 422. The Scientific Revolution

HIST 423. The European Enlightenment

HIST 429. History of Fascism in Europe

HIST 431. Medieval England

HIST 432. England: Reformation to Revolution to 1530-1660

HIST 433. England: Restoration to 1789

HIST 434. England in the Victorian Age

HIST 435. 20th Century England

HIST 461. The Russian Revolution

HIST 462. Recent Russia

HIST 473. Spanish-American Colonial Institutions

HIST 475. History of Brazil

HIST 480. The Social & Economic History of China Since the Late Ming

HIST 485. Africa Since 1800

HIST 486. History of South Africa

INTS 395. Internship in International Studies

POLS 271. West European Politics

POLS 272. Non-Western Politics

POLS 274. Developmental Politics in East Asia

POLS 275. Post Communist Politics & Change

POLS 277. Latin American Politics

POLS 281. Challenges to the State

POLS 372. Russian Politics

POLS 376. Chinese Politics

POLS 472. State Terror

POLS 476. Ethnic Conflict & Identity

POLS 477. Israel & the Middle East

SOCI 217. Nationality & Race Relations

SOCI 481. Minority Groups

SOCI 490. Sociology of Women

SOCI 491. Political Sociology

**2. International Relations**

AECN 346. World Food Economics

AECN 420. International Food & Agricultural Trade

AGRI 282. Intro to Global Agricultural & Natural Resources Issues

ANTH 353. Anthropology of War

BRDC 465. International Broadcasting

COMM 371. Communication in Negotiation & Conflict Resolution

ECON 321. Intro to International Economics

ECON 322. Intro to Development Economics

ECON 421. International Trade

ECON 422. International Finance

GEOG 272. Geography of World Regions

HIST 336. The British Empire & Commonwealth

HIST 338. War & Peace in Europe: 1914 to the Present

HIST 347. History of United States Foreign Relations to 1909

HIST 348. History of United States Foreign Relations Since 1909

HIST 429. History of Fascism in Europe

HIST 471. Latin America & the Outside World

MNGT 428. International Management

MRKT 453. International Marketing

POLS 104. Comparative Politics  
 POLS 260. Problems in International Relations  
 POLS 261. Conflict & Conflict Resolution  
 POLS 263. Causes of War & Peace  
 POLS 268. Threats to World Order  
 POLS 271. West European Politics  
 POLS 272. Non-Western Politics  
 POLS 360. Understanding World Politics  
 POLS 361. The United Nations & World Politics  
 POLS 363. US Foreign Policy  
 POLS 365. The United States & Latin America  
 POLS 371. Politics of the European Union  
 POLS 459. International Political Economy  
 POLS 462. Security in the Post-Cold War Era  
 POLS 464. Political Economy of the Asia-Pacific  
 POLS 468. Organizing World Order  
 POLS 469. International Law  
 POLS 470. International Human Rights  
 POLS 471. Comparative Public Policy: A Cross-National Approach  
 POLS 473. Problems in International Law & Organization

### 3. Cultural Encounters

AHIS 216. Medieval Art  
 AHIS 221. Italian Renaissance Art  
 AHIS 226. Northern Renaissance Art  
 AHIS 231. Baroque Art  
 AHIS 246. Modern Art  
 AHIS 256. Latin American Art  
 AHIS 261. Oriental Art: India, Ceylon, Java, Japan  
 AHIS 262. Oriental Art: China, Korea, Southeast Asia  
 AHIS 318. Late Medieval Art in Europe  
 AHIS 341. European Art in the 19th Century  
 AHIS 346. European Art in the 20th Century  
 AHIS 411. Classical Architecture  
 AHIS 441. Impressionism & Post-Impressionism  
 AHIS 456. Pre-Columbian Art  
 AHIS 457. Colonial Art of Latin America  
 ARCH 450. Survey of Asian Architecture  
 COMM 211. Intercultural Communications  
 ENGL 230. English Authors to 1800  
 ENGL 243B. Literature of India  
 ENGL 244A. Intro to African Literature  
 ENGL 245K. Canadian Literature  
 ENGL 331. British Authors Since 1800  
 ENGL 342A. Irish Literature  
 ENGL 349. National Cinemas  
 ENGL 365. Intro to 19th Century British Literature  
 ENGL 465. 19th Century British Literature  
 FREN 282. French Literature in Translation I  
 FREN 321. French Civilization I  
 FREN 322. French Civilization II  
 FREN 323. Aspects of Francophone Civilization  
 FREN 422. Topics in French Civilization  
 FREN 441. Literary Treasures of the Middle Ages  
 FREN 449. 18th Century  
 FREN 453. French Literature 19th Century I  
 FREN 454. French Literature 19th Century II  
 FREN 457. 20th Century French Literature I  
 FREN 458. 20th Century French Literature II  
 GEOG 372. European Landscapes & Cultures  
 GERM 282. German Literature in Translation  
 GERM 301. Representative Authors I  
 GERM 302. Representative Authors II  
 GERM 321. German Civilization I  
 GERM 322. German Civilization II  
 GERM 447. 18th Century Literature  
 GERM 448. Romanticism  
 GERM 449. Survey of 19th Century German Literature, 1820-1848  
 GERM 450. Survey of 19th Century German Literature, 1848-1900  
 GERM 451. From Naturalism to Expressionism

GERM 452. From the Weimar Republic Into Exile  
 GERM 453. History of German Poetry  
 GERM 454. German Literature & Philosophy  
 GERM 455. Postwar German Literature: The Literature of West Germany, Austria, & Switzerland  
 GERM 459. Works of Goethe & Schiller  
 GERM 460. Goethe's Faust  
 HIST 217. Israel: The Holy Land  
 HIST 218. History of Islam  
 HIST 219. Intro to Jewish History  
 HIST 220. History of Christianity  
 HIST 414. Medieval Culture  
 HIST 424. European Social & Cultural History Since 1815  
 LAMS 311. Representative Spanish-American Authors I (SPAN 311)  
 LAMS 312. Representative Spanish-American Authors II (SPAN 312)  
 LAMS 331. Latin American Civilization (SPAN 331)  
 LAMS 459. Spanish-American Poetry (SPAN 459)  
 LAMS 460. Spanish-American Novel (SPAN 460)  
 LAMS 462. Spanish-American Short Story (SPAN 462)  
 LAMS 470. Women Writers in Spanish America (SPAN 470)  
 MODL 234D. Major Themes in World Literature  
 MUNM 276G. The Music Experience  
 MUNM 280. World Music  
 NUTR 205. Asian Martial Culture  
 PHIL 232. History of Philosophy (Modern)  
 PHIL 333. History of Philosophy (19th Century)  
 PHIL 340. Contemporary Analytical Philosophy  
 PHIL 341. Contemporary Continental Philosophy  
 PHIL 460. History of Modern Philosophy  
 PHIL 471. Kant  
 POLS 108. Political Ideas  
 POLS 383. Justice & the Good Life  
 POLS 384. Liberalism & Its Critics  
 POLS 386. Truth & Progress  
 RUSS 301. Representative Authors I  
 RUSS 302. Representative Authors II  
 RUSS 441. Advanced Literary Analysis  
 RUSS 442. Russian Poetry  
 RUSS 454. Russian Intellectual Tradition  
 RUSS 482. Russian Literature in Translation I  
 RUSS 483. Russian Literature in Translation II  
 SOCI 455. History of Sociological Theory  
 SPAN 264. Spanish-American Literature in Translation I  
 SPAN 265. Spanish-American Literature in Translation II  
 SPAN 305. Literary Analysis in Spanish  
 SPAN 311. Representative Spanish-American Authors I (LAMS 311)  
 SPAN 312. Representative Spanish-American Authors II (LAMS 312)  
 SPAN 314. Representative Authors of Spain I  
 SPAN 315. Representative Authors of Spain II  
 SPAN 321. Spanish Civilization  
 SPAN 331. Latin American Civilization (LAMS 331)  
 SPAN 441. Spanish Golden Age Poetry  
 SPAN 442. Spanish Golden Age Prose  
 SPAN 445. Spanish Golden Age Drama  
 SPAN 453. 19th Century Spanish Literature  
 SPAN 456. 20th Century Spanish Poetry  
 SPAN 457. 20th Century Spanish Narrative  
 SPAN 458. 20th Century Spanish Drama  
 SPAN 459. Spanish-American Poetry (LAMS 459)  
 SPAN 460. Spanish-American Novel (LAMS 460)  
 SPAN 462. Spanish-American Short Story (LAMS 462)  
 SPAN 463. 20th Century Spanish & Spanish-American Essay  
 SPAN 470. Women Writers in Spanish America (LAMS 470)  
 SPAN 473. Cervantes  
 THEA 440. Continental Drama

## Courses of Instruction (INTS)

395. Internship in International Studies (1-6 cr) Fld. Prereq: Permission. *Students must apply to the Chief Adviser of International Studies the semester preceding the one in which they wish to register.*

Internship program in a foreign country or in the United States with a governmental or private agency involved in international issues.

494. Seminar in International Studies (3 cr) Prereq: Junior standing with 18 credits completed toward major in International Studies. *Students may count up to 6 hours or two seminars toward their major requirements.*

Capstone course for majors in international studies. Topical seminar for seniors; required for all majors in international studies. Offered with a different topic each time and taught by program faculty.

499. Independent Study (1-6 cr, 12 max) Prereq: Sophomore standing; and 9 credit hours completed toward major in International Studies; and permission. *Projects are supervised by International Studies faculty.*

## Judaic Studies

(Minor Only)

Director: Jean Cahan, 324 Seaton Hall

Faculty: Crawford (classics and religious studies); Raz, Shapiro (English); Burnett, D. Cahan (history); Kohen (political science); J. Cahan (political science and philosophy); Jacobson, Ran (modern languages and literatures); Nisse (English and medieval renaissance studies),

Judaic Studies is an interdisciplinary program of the Norman and Bernice Harris Center for Judaic Studies, 324 Seaton Hall. The minor in Judaic Studies is for students interested in the nature and history of Jewish cultures and peoples, the ways in which Jewish and other traditions have influenced each other, and the origins and effects of anti-Semitism and prejudice. Courses in Judaic Studies are offered by cooperating faculty in arts and sciences college departments. These departments and programs include: classics, English, history, modern languages and literatures, philosophy, political science, psychology, religious studies, and sociology. Language courses in Biblical Hebrew are available.

## Requirements for the Minor in Judaic Studies

- 18 hours taken from:
  - 2 core courses: HIST 219 Intro to Jewish History and JUDS 350 Literature of Judaism
  - 12 hrs of electives in any combination chosen from List 1 and List 2

Credits earned using the Pass/No Pass option do not count toward this minor.

## Elective Courses

### List 1 – Judaic Studies

JUDS 205. Intro to the Hebrew Bible/Old Testament  
 JUDS 217. Israel: The Holy Land  
 JUDS 306. Second Temple Judaism  
 JUDS 331. Ancient Israel  
 JUDS 332. Jews in the Middle Ages  
 JUDS 333. Jews in the Modern World  
 JUDS 340. Women in the Biblical World  
 JUDS 398. Special Topics in Judaic Studies  
 JUDS 408. Dead Sea Scrolls

**List 2 – Other Departments**

CLAS 409. Religion of Late Western Antiquity  
 ENGL 245J. Jewish American Fiction  
 ENGL 341. The Bible as Literature  
 HEBR 101. Elementary Biblical Hebrew I  
 HEBR 102. Elementary Biblical Hebrew II  
 HEBR 301. Biblical Hebrew Prose  
 HEBR 302. Biblical Hebrew Poetry  
 HIST 209. Ancient Greece (3 cr)  
 HIST 339. The Holocaust  
 MODL 232. Jewish Idea in Modern Literature  
 PHIL 116. Philosophy & Religious Belief  
 PHIL 223. Philosophy of History  
 PHIL 265. Philosophy & Religion  
 PHIL 332. Spinoza  
 POLS 477. Israel & the Middle East  
 SOCI 217. Nationality & Race Relations  
 SOCI 452. Sociology of Religion

**Courses of Instruction (JUDS)**

177. The Holocaust in Literature and Film (MODL 177) (3 cr)  
 For course description, see MODL 177.

(ACE 5) [ES][IS] 205. Introduction to the Hebrew Bible/Old Testament (RELG 205) (3 cr)  
 For course description, see RELG 205.

(ACE 9) [ES] 209. Judaism and Christianity in Conflict and Coexistence (RELG 209) (3 cr)  
 For course description, see RELG 209.

(ACE 9) [ES] 217. Israel: The Holy Land (HIST, RELG 217) (3 cr)  
 For course description, see HIST 217.

(ACE 9) [ES] 219. Introduction to Jewish History (HIST, RELG 219) (3 cr) Lec 3.  
 For course description, see HIST 219.

[ES][IS] 245J. Jewish-American Fiction (ENGL 245J) (3 cr)  
 For course description, see ENGL 245J.

[IS] 306. Second Temple Judaism (RELG 306) (3 cr)  
 For course description, see RELG 306.

[ES] 331. Ancient Israel (CLAS, HIST, RELG 331) (3 cr) Prereq: Sophomore standing or permission.  
 For course description, see HIST 331.

[ES] 332. Jews in the Middle Ages (HIST, RELG 332) (3 cr) Prereq: Sophomore standing or permission.  
 For course description, see HIST 332.

[ES] 333. Jews in the Modern World (HIST 333) (3 cr) Prereq: Sophomore standing or permission.  
 For course description, see HIST 333.

[ES] 334. Jews, Christians and the Bible (RELG 334) (3 cr)  
 For course description, see RELG 334.

[ES][IS] 340. Women in the Biblical World (RELG, WMNS 340) (3 cr)  
 For course description, see RELG 340.

[ES][IS] 345. Modern European Jewish Philosophy (PHIL 345) (3 cr) Lec. Prereq: 3 hrs PHIL.  
 For course description, see PHIL 345.

[ES][IS] 350. Literature of Judaism (3 cr)  
 Examination of some principal texts in Jewish religion and philosophy from Biblical times to the 18th Century Enlightenment. The Hebrew Bible, and different approaches to it, as well as portions of the Talmud and the formation of rabbinic Judaism. Writings by philosophers including Maimonides, Saadia, and others, along with narratives, poetry and legends from the seventeenth and eighteenth centuries, which saw the development of Hasidism as well as the emergence of rationalist philosophies.

398. Special Topics in Judaic Studies (1-3 cr)  
 This course will be used for a variety of different topics.

408. Dead Sea Scrolls (CLAS 408/808, RELG 408) (3 cr) Prereq: CLAS/JUDS/RELG 205 or 306 or permission.  
 For course description, see CLAS 408/808.

[IS] 462A. Ideas of Ethnicity in Medieval Literature (ENGL 462A) (3 cr)  
 For course description, see ENGL 462A/862A.

[IS] 476. Ethnic Conflict and Identity (POLS 476/876) (3 cr)  
 For course description, see POLS 476/876.

[IS] 477. Israel and the Middle East (POLS 477/877) (3 cr)  
 For course description, see POLS 477/877.

LAMS 462. Spanish-American Short Story (SPAN 462) (3 cr)  
 LAMS 470. Women Writers of Spanish America (SPAN 470) (3 cr)  
 SPAN 203. Intensive Conversation (3 cr)  
 SPAN 300. Advanced Reading, Writing, Speaking (6 cr)  
 SPAN 303. Advanced Reading for Comprehension (3 cr)  
 SPAN 304. Advanced Writing (3 cr)  
 SPAN 305. Literary Analysis in Spanish (3 cr)  
 SPAN 317. Intro to Linguistics (3 cr)  
 SPAN 319. Spanish Phonetics (3 cr)

**B. Courses in at least three departments from the following:**

AHIS 256. Latin American Art (3 cr)  
 AHIS 457. Colonial Art of Latin America (3 cr)  
 ECON 321. Intro to International Economics (3 cr)  
 ECON 322. Intro to Development Economics (3 cr)  
 ECON 323. Economic Development of Latin America (3 cr)

ETHN 171. Latin American Culture & Civilization (HIST 171) (3 cr)

ETHN 245D. Chicana and/or Chicano Literature (ENGL 245D) (3 cr)

ETHN 350. People & Cultures of Native Latin America (ANTH 350) (3 cr)

ETHN 370. Colonial Mexico (HIST 370) (3 cr)

ETHN 371. Modern Mexico (HIST 371) (3 cr)

GEOG 378. Geography of Latin America (3 cr)

HIST 271. Latin American Colonies (3 cr)

HIST 272. The Latin American Republics (3 cr)

HIST 372. Revolutions in 20th Century Latin America (3 cr)

HIST 471. Latin America & the Outside World (3 cr)  
 HIST 473. Spanish-American Colonial Institutions (3 cr)

HIST 475. History of Brazil (3 cr)

MNGT 428. International Management (3 cr)

MRKT 453. International Marketing (3 cr)

POLS 277. Latin American Politics (3 cr)

POLS 365. The United States & Latin America (3 cr)

TEAC 433. Comparative Education (3 cr)

**C. Individualized Courses of Instruction.** A total of 9 hours of individualized course work may count towards the major, but no more than 6 hours of one particular course (i.e., LAMS 399 or LAMS 399H) will count toward the major.

**D. 3-6 hours Interdisciplinary Pro-seminar**

478/878 that is cross-listed in 7 departments at UNL (anthropology, educational psychology, geography, history, modern languages, political science and sociology).

A minor is also required, which may be any minor offered by the College of Arts and Sciences. Many students who major in Latin American Studies carry a double major with Spanish, history, political science, economics, international studies, or international business, or have chosen to minor in one of those fields.

The University of Nebraska–Lincoln and the University of Nebraska at Omaha are cooperating with the Latin American Studies major. UNO students may complete their course requirements by attending classes at UNL. UNL students may take courses offered at UNO to meet some requirements for a major in Latin American Studies. Please note that UNL residency requirements still apply. Students should check with their adviser for information on UNO equivalent courses or other courses

**Latino and Latin American Studies**

**Coordinator and Undergraduate Adviser:** James Garza, 309 Seaton Hall

**Faculty:** Ari (history/ethnic studies), Cantarero (community and regional planning), Carlo (psychology), Carranza (sociology/ethnic studies), Castro (English/ethnic studies), Ceballos (sociology), Garcia (curriculum and instruction), Garza (history/ethnic studies), González (modern languages and literatures/ethnic studies), Hagewen (sociology), Hames (anthropology and geography), Lopez (curriculum and instruction), Mason (agronomy), Montes (English/ethnic studies), Myers (State Museum/anthropology and geography), Nickel (modern languages and literatures), Osorio (veterinary science), Pasten (modern languages and literatures), Pereira (modern languages and literatures), Sanchez (anthropology and geography), Van Den Berg (economics), Vigil (English), Walters (agronomy)

Latino and Latin American Studies includes a major and minor in Latin American Studies and a minor in Chicano Studies.

The major and minor in Latin American Studies are designed to provide a sound basis for undergraduate students who intend to seek employment with governmental agencies and private enterprises with operations in Latin America, as well as those who decide to undertake graduate study in some academic discipline with emphasis in this area. The Chicano Studies minor focuses on people of Latin American origin or descent living in the US.

**Requirements for the Major in Latin American Studies**

To complete a major in Latin American Studies, a student is expected to take at least 33 credit hours as described below. All students should have reasonable fluency in either Spanish and/or Portuguese.

The major will include:

**A. At least 9 hours selected from the following courses:**

LAMS 311. Representative Spanish-American Authors I (SPAN 311) (3 cr)

LAMS 312. Representative Spanish-American Authors II (SPAN 312) (3 cr)

LAMS 331. Latin American Civilization (SPAN 331) (3 cr)

LAMS 459. Spanish-American Poetry (SPAN 459) (3 cr)

LAMS 460. Spanish-American Novel (SPAN 460) (3 cr)

that may apply to the Latin American Studies major. Associate Professor Lourdes Gouviea, Director of the Office of Latino and Latin American Studies at UNO, is the UNO campus coordinator for our Latin American Studies Program.

**E. Program Assessment.** In order to assist the department in evaluating the effectiveness of its programs, majors will be required to submit to the undergraduate adviser a copy of the semester project completed for the Latin American Studies Pro-seminar. The course instructor will inform majors of the deadline for submission.

Results of participation in this assessment activity will in no way affect a student's GPA or graduation.

## Requirements for the Minor in Latin American Studies

- 18 hours: 6 in modern languages and literatures as in Group A courses under the major requirements, 12 in social sciences as in Group B and C courses under the major requirements above. No more than 3 credits of LAMS 399 will count toward the minor. Minors may not take LAMS 399H for credit.

UNL and UNO are also jointly cooperating in our Latin American Studies minor. See discussion above.

## Requirements for the Minor in Chicano Studies

- 18 hours from the following courses (other courses may be used with the approval of the faculty adviser):

- ETHN 171. Latin American Culture & Civilization (HIST 171) (3 cr)
- ETHN 212. Intro to Cultural Anthropology (ANTH 212) (3 cr)
- ETHN 217. Nationality & Race Relations (SOCI 217) (3 cr)
- ETHN 218. Chicanos in American Society (SOCI 218) (3 cr)
- ETHN 310. Psychology of Immigration (PSYC 310) (3 cr)
- ETHN 330. Multicultural Education (TEAC 330) (3 cr)
- ETHN 350. People & Cultures of Native Latin America (ANTH 350) (3 cr)
- ETHN 357. The History & Culture of the Mexican-American (HIST 357) (3 cr)
- ETHN 370. Colonial Mexico (HIST 370) (3 cr)
- ETHN 371. Modern Mexico (HIST 371) (3 cr)
- ETHN 481. Minority Groups (SOCI 481) (3 cr)
- ENGL 245D. Chicana and/or Chicano Literature (3 cr)

## Courses of Instruction (LAMS)

[ES][IS] 311. Representative Spanish-American Authors I (SPAN 311) (3 cr) Lec 3. Prereq: SPAN 305 or equivalent. *Lectures, oral discussions, and written work in Spanish.* For course description, see SPAN 311.

[ES][IS] 312. Representative Spanish-American Authors II (SPAN 312) (3 cr) Lec 3. Prereq: SPAN 305 or equivalent. *Lectures, oral discussions, and written work in Spanish.* For course description, see SPAN 312.

[ES][IS] 331. Latin American Civilization (SPAN 331) (3 cr) Lec 3. Prereq: SPAN 300 or equivalent. *Lectures, discussions, papers in Spanish.*

For course description, see SPAN 331.

398. Special Topics (3-4 cr, max 24) Lec.

Topic varies.

399. Independent Study (1-6 cr, max 6) Prereq: Permission. Independent research or reading in Latin American Studies.

399H. Honors Thesis (1-6 cr, max 6) Prereq: Good standing in the University Honors Program or by invitation. *Open only to candidates for degrees with distinction or with high distinction or with highest distinction in the College of Arts and Sciences.*

436. The Ancient Maya (ANTH 436/836) (3 cr) Lec. For course description, see ANTH 436/836.

459. Spanish-American Poetry (SPAN 459/859) (3 cr) Lec 3. Prereq: 6 hrs from SPAN/LAMS 311, 312, SPAN 314, 315. For course description, see SPAN 459/859.

460. Spanish-American Novel (SPAN 460/860) (3 cr) Lec 3. Prereq: 6 hrs from SPAN/LAMS 311, 312, SPAN 314, 315. For course description, see SPAN 460/860.

[IS] 462. Spanish-American Short Story (SPAN 462/862) (3 cr) Lec 3. Prereq: 6 hrs from SPAN/LAMS 311, 312, SPAN 314, 315. For course description, see SPAN 462/862.

470. Women Writers of Spanish America (SPAN 470/870) (3 cr) Lec 3. Prereq: 6 hrs from SPAN/LAMS 311, 312, SPAN 314, 315. For course description, see SPAN 470/870.

[IS] 478. Pro-seminar in Latin American Studies (ANTH, EDPS, GEOG, HIST, MODL, POLS, SOCI 478/878) (3 cr, max 6) Prereq: Junior standing and permission. *Topical seminar required for all Latin American Studies majors.* For course description, see ANTH 478/878.

498. Special Topics (3-4 cr, max 24) Lec. Topic varies.

## Requirements for the Minor in LGBTQ/Sexuality Studies

- 18 hours of course work

WMNS 201 Intro to LGBT Studies (3 cr)

At least 6 hrs from List A

At least 6 hrs at the 400 level with at least 3 hrs from List A

Courses from at least three different departments

### List A

ENGL 212. Intro to Lesbian & Gay Literature (WMNS 212)

ENGL 239. Film Directors: Gay & Lesbian Directors

ENGL 414. 20th Century Women Writers: Lesbian Literature

HIST 402. Sexuality in 19th & 20th Century America (WMNS 402)

PSYC 421. Psychology of Gender (WMNS 421)

PSYC 471. Human Sexuality & Society (CYAF/EDPS/SOCI 471)

### List B

ANTH 410. Women & Men: An Anthropological Perspective (WMNS 410)

\*ENGL 245D. Chicano/a Literature (ETHN 245D)

\*ENGL 445. Ethnic Literature (ETHN 445)

HIST 441. Women & Gender in the USA (WMNS 441)

PHIL 218. Philosophy of Feminism (WMNS 218)

SOCI 448. Family Diversity (ETHN 448)

SOCI 490. Sociology of Women/Gender

WMNS 400. Senior Seminar

**NOTE:** In courses with an asterisk (\*), in order to count for the minor, a significant portion of course content must be related to LGBTQ/Sexuality Studies. Before enrolling, check with LGBTQ/Sexuality Studies adviser.

## Mathematics

**Chair:** John Meakin, 206 Avery Hall

**Vice Chair:** John Orr

**Professors:** Avalos, Avramov, Deng, Dunbar, Erbe, Harbourne, Hermiller, Iyengar, Lewis, Logan, Marley, Meakin, Orr, Papick, Peterson, Pitts, Rammaha, Rebarber, Shores, Skouge, J. Walker, M. Walker, R. Wiegand, S. Wiegand, Woodward

**Associate Professors:** Brittenham, Chouinard, Cohn, Donsig, Hines, Ledder, Radcliffe

**Assistant Professors:** Foss, Hartke, Kelley, Loladze, Radu, Tenhumberg

## Requirements for the Major in Mathematics

A strong mathematics background is essential to an increasing variety of careers. The Department of Mathematics encourages students to select a coherent body of courses in mathematics and in other disciplines that are consistent with their academic goals.

The Department of Mathematics offers four options for the major in mathematics. Each student majoring in mathematics should select an option that meets their academic needs by completing a Program Declaration form in consultation with the Department's Chief Undergraduate Adviser. Ideally, this should be done prior to completing two mathematics courses beyond the calculus sequence. As

appropriate, students can change their Program Declaration to select a different option or modify the program of study subject to the approval of the Chief Undergraduate Adviser.

All options for the mathematics major require: A complete calculus sequence: MATH 106, 107, 208 or 108H, 109H, or equivalent.

Twenty-four hours (8 courses) selected from the Advanced Mathematics Course List.

A minimum cumulative GPA of 2.5 in those courses used to satisfy the Advanced Mathematics course requirements.

An approved Program Declaration form.

**Program Assessment.** In order to assist the department in evaluating its programs, all majors should plan to participate in a) an exit interview, and b) an exit exam, during their last semester before graduation. Please make arrangements with the Chief Undergraduate Adviser.

#### Option C (Concentration)

This option is ideal for students wishing to combine a strong mathematics education with a coherent body of course work in another discipline.

Specific requirements above calculus are as follows:

- The 8 required mathematics courses must be distributed as follows:
  - MATH 314
  - Either MATH 221 or 380
  - Either MATH 310 or 325
  - At least three Advanced Mathematics courses at the 400 level
  - Two additional Advanced Mathematics courses
- Any Plan A minor or an approved 18-hour concentration outside of mathematics.

**NOTE:** One 400-level course in the area of the concentration may be substituted for one of the required 400-level Advanced Mathematics courses, provided the course makes significant use of advanced mathematics. The Chief Undergraduate Adviser must approve the substitution.

#### Option E (Education)

This option is ideal for students interested in teaching mathematics at the secondary level. Specific requirements above calculus are as follows:

MATH 221, 310, 314, 350, 380, 405, 407, 408

An education minor or an approved 18-hour concentration in education

#### Option R (Research Experience)

This option is recommended for students interested in independent work and for students planning to pursue graduate work in mathematics.

Specific requirements above calculus are as follows:

- The eight required mathematics courses must be distributed as follows:
  - MATH 221, 310, 314, and 325
  - At least three Advanced Mathematics courses at the 400 level
  - One more Advanced Mathematics course
- An approved undergraduate research experience. A variety of options exist for meeting this requirement. They include 1) research experiences such as an REU or UCARE that leads to a project paper, 2) a senior honors thesis or a thesis approved for graduation with distinction, or 3) a

grade of P in MATH 496, Undergraduate Research Seminar (this course would be in addition to the Advanced Mathematics courses requirement above). To satisfy this requirement, students must file with the Chief Undergraduate Adviser a) a "Research Experience" contract that is approved by the Chief Undergraduate Adviser and b) the thesis, research papers, or projects as required by the contract. Visit with the Chief Undergraduate Adviser for more information.

#### Option S (Statistics)

This option is recommended for students interested in a mathematics major and a strong body of course work in statistics. Specific requirements above calculus are as follows:

- The eight required mathematics courses must be distributed as follows:
  - MATH 314 and MATH/STAT 380
  - MATH 310 or 325
  - At least three Advanced Mathematics courses at the 400 level. **NOTE:** For the purpose of this requirement, one 400-level statistics course may be substituted for one 400-level Advanced Mathematics course.
  - Two more Advanced Mathematics courses
- Nine hours of statistics numbered 300 or above in addition to MATH/STAT 380

**NOTE:** Under any option, students may substitute a more advanced course in the same area for a required mathematics course. Interested students should visit with the Chief Undergraduate Adviser for more information about this option.

### Requirements for the Minor in Mathematics

**Plan A.** A complete calculus sequence plus two advanced mathematics courses.

**Plan B.** A complete calculus sequence.

**Pass/No Pass.** For majors or minors, no calculus course can be taken Pass/No Pass. (Students in violation of this should consult with the Chief Undergraduate Adviser for possible alternative requirements.) For majors or minors, at most 3 hours of the Advanced courses may be taken as Pass/No Pass.

**Prerequisites.** The prerequisites listed for a course may be replaced by equivalent preparation. One prerequisite for all Advanced Mathematics courses is successful completion of MATH 106-107-208 (or 108H-109H) or equivalent. Additional specific prerequisites, if any, are listed with the course. Two courses past calculus are required prerequisites for all 400-level mathematics courses. All topics, independent study, reading courses and seminars require permission of the instructor before registering; and these courses do not count toward the major requirements unless approved by the Chief Undergraduate Adviser.

**NOTE:** Students with previous credit in any calculus course may not register for or earn credit in MATH 100A, 101, 102, 103, or 104, without first receiving special written permission from the Chief Undergraduate Adviser.

**Graduate Work.** The advanced degrees of master of arts, master of science, master of arts (or science) for teachers, and doctor of philosophy are offered by the Department of Mathematics. For details of these programs, see the *Graduate Studies Bulletin*.

### Courses of Instruction (MATH)

Courses or special sections bearing a "T" designation are restricted to students in the MAT (MScT) program. See the *Graduate Studies Bulletin* for further information.

#### Introductory Mathematics Courses

**Mathematics Placement Policy:** Students presenting proof of a grade of C (P) or better in the prerequisite course at UNL, UNO, or UNK are exempt from the readiness requirement. Otherwise, readiness is established by having a current, satisfactory score on the department's Mathematics Placement Exam (MPE). A score on the MPE is valid for two semesters and a summer. For more details, see the current *Schedule of Classes*.

**100A. Intermediate Algebra** (3 cr) Prereq: One year high school algebra and appropriate score on the Math Placement Exam. *Credit earned in MATH 100A will not count toward degree requirements.*

Review of the topics in a second-year high school algebra course taught at the college level. Includes real numbers, 1st and 2nd degree equations and inequalities, linear systems, polynomials and rational expressions, exponents and radicals. Heavy emphasis on problem solving strategies and techniques.

**101. College Algebra** (3 cr) Prereq: Appropriate placement exam score and either two years of high school algebra or a grade of P, C, or better in MATH 100A.

Real numbers, exponents, factoring, linear and quadratic equations, absolute value, inequalities, functions, graphing, polynomial and rational functions, exponential and logarithmic functions, systems of equations.

**102. Trigonometry** (2 cr) Prereq: One year high school geometry and either two years high school algebra, one semester high school precalculus, and a qualifying score on the Math Placement Exam; or a grade of C, P, or better in MATH 101. *Credit toward the degree may be earned in only one of MATH 102 or 103.* Trigonometric functions, identities, trigonometric equations, solution of triangles, inverse trigonometric functions, and graphs.

**103. College Algebra and Trigonometry** (5 cr) Prereq: Appropriate placement exam score, one year high school geometry, and two years high school algebra. For students with previous college math courses, permission is also required.

First and second degree equations and inequalities, absolute value, functions, polynomial and rational functions, exponential and logarithmic functions, trigonometric functions and identities, laws of sines and cosines, applications, polar coordinates, systems of equations, graphing, conic sections.

**(ACE 3) [ES] 104. Calculus for Managerial and Social Sciences** (3 cr) Prereq: Appropriate placement exam score or a grade of P (pass), or C or better in MATH 101. *Credit for both MATH 104 and 106 is not allowed.*

Rudiments of differential and integral calculus with applications to problems from business, economics, and social sciences.

**NOTE:** Students with adequate high school preparation (equivalent to MATH 101 and 102) should begin with MATH 106, which is the first course in a three-semester calculus sequence. Students who have had some calculus in high school may be eligible for advanced placement and should contact the Department of Mathematics for further information. MATH 104 is recommended for students in managerial and social sciences.

(ACE 3) [ES][IS] **106. Analytic Geometry and Calculus I** (5 cr) Prereq: One year high school geometry; two years algebra and one year precalculus-trig in high school, or MATH 102 or 103 or equivalent. Math Placement Policy applies. *Credit for both MATH 104 and 106 is not allowed.*

Functions of one variable, limits, differentiation, exponential, trigonometric and inverse trigonometric functions, maximum-minimum, and basic integration theory (Riemann sums) with some applications.

(ACE 3) [ES][IS] **106B. Calculus I for Biology and Medicine** (5 cr) Lec, rct. Prereq: One year high school geometry; two years high school algebra and one year high school precalculus-trigonometry, or MATH 102 or 103 or equivalent. Math Placement Policy applies. *Credit toward the degree may be earned in only one of: MATH 104, 106, 106B, or 108H. MATH 106B serves as a prerequisite for other courses in place of MATH 106 or 108H.*

Functions of one variable, limits, differentiation, integration theory, fundamental theorem of calculus, with applications in the life sciences.

(ACE 3) [ES][IS] **107. Analytic Geometry and Calculus II** (5 cr) Prereq: A grade of P, C or better in MATH 106. Integration theory; techniques of integration; applications of definite integrals; basics of ordinary differential equations; series, Taylor series.

(ACE 3) [ES][IS] **107H. Honors: Calculus II** (5 cr) Prereq: Good standing in the University Honors Program or by invitation; and a grade of "B" or better in MATH 106 or equivalent. For course description, see MATH 107.

(ACE 3) [ES][IS] **108H. Honors: Accelerated Calculus I** (5 or 7 cr) Prereq: Good standing in the University Honors Program or by invitation.

Accelerated calculus course covering MATH 106 and approximately one-half of MATH 107.

(ACE 3) [ES][IS] **109H. Honors: Accelerated Calculus II** (5 or 7 cr) Prereq: Good standing in the University Honors Program or by invitation; MATH 108H.

Covers second half of MATH 107 and all of MATH 208.

[ES][IS] **189H. University Honors Seminar** (3 cr) Prereq: Good standing in the University Honors Program or by invitation; placement score on the Math Placement Examination (MPE) or the MATH 104 level or above. *University Honors Seminar 189H is required of all students in the University Honors Program.*

Topics vary.

**200/800. Mathematics for Elementary School Teachers** (3 cr) Prereq: Undergraduates must be admitted to the College of Education and Human Sciences; successful completion of the PPST; and removal of any mathematics entrance deficiencies. Graduate students are admitted by permission. *Credit toward the degree may be earned in only one of: MATH 200, 300, or 300M.*

Fundamental mathematical concepts basic to the understanding of arithmetic.

**201/801. Geometry for Elementary School Teachers** (3 cr) Prereq: Completion of MATH 200 with a grade of C, P or better. Undergraduates must be admitted to the College of Education and Human Sciences or the child development program of CEHS. Graduate students are admitted by permission. Fundamental mathematical concepts basic to the understanding of elementary geometry.

(ACE 3) [ES][IS] **203. Contemporary Mathematics** (3 cr) Prereq: Sophomore standing and removal of all entrance deficiencies in mathematics. *Not open to students with credit or concurrent enrollment in MATH 104, 105, 106, or STAT 218.*

Applications of quantitative reasoning and methods to problems and decision making in the areas of management, statistics, and social choice. Includes networks, critical paths, linear programming, sampling, central tendency, inference, voting methods, power index, game theory, and fair division problems.

(ACE 3) [ES][IS] **203J. Contemporary Mathematics "J"** (3 cr) Lec 3. Prereq: Sophomore standing and removal of all entrance deficiencies in mathematics. *MATH 203J is not open to students with credit or with parallel enrollment in MATH 104, 106/108H, 203, or STAT 218.*

Applications of quantitative reasoning and methods to problems and decision making in areas of particular relevance to College of Journalism and Mass Communication student, such as governance, finance, statistics, social choice, and graphical presentation of data. Financial mathematics, statistics, and probability (sampling, central tendency, and inference), voting methods, power index, and fair division problems.

(ACE 3) [ES][IS] **208. Analytic Geometry and Calculus III** (4 cr) Prereq: A grade of P, C or better in MATH 107.

Vectors and surfaces, parametric equations and motion, functions of several variables, partial differentiation, maximum-minimum, Lagrange multipliers, multiple integration, vector fields, path integrals, Green's Theorem, and applications.

(ACE 3) [ES][IS] **208H. Honors: Analytic Geometry and Calculus III** (4 cr) Prereq: Good standing in the University Honors Program or by invitation. For course description, see MATH 208.

**300. Mathematics Matters** (3 cr) Lec 3. Prereq: TEAC 308; admission to the College of Education and Human Sciences; removal of any mathematics entrance deficiencies. *Credit toward the degree may be earned in only one of: MATH 200, MATH 300, or MATH 300M. MATH 300 is designed for elementary education majors with mathematics as an area of concentration.*

Numbers and operations. Develop an understanding of mathematics taught in the elementary school.

**300M. Mathematics as a Second Language** (3 cr) Lec 3. Prereq: Admission to the College of Education and Human Sciences. *MATH 300M is open only to a middle grades teaching endorsement program student. Credit toward the degree may be earned in only one of: MATH 200, MATH 300, or MATH 300M. MATH 300M is designed to strengthen the mathematics knowledge of the middle level mathematics teacher.*

Develop a deeper understanding of "numbers and operations." The importance of careful reasoning, problem solving, and communicating mathematics, both orally and in writing. Connections with other areas of mathematics and the need for developing the "habits of mind of a mathematical thinker."

**301. Geometry Matters** (3 cr) Prereq: MATH 200 or MATH 300, with a grade of C or Pass or better. *Credit towards the degree may be earned in only one of: MATH 201 or MATH 301. Designed for elementary education majors with mathematics as an area of concentration.*

Geometry and measurement. Develop an understanding of geometry as taught in the elementary school.

**302. Math Modeling** (3 cr) Lec. Prereq: Admission to the College of Education and Human Sciences. *Open only to middle grades teaching endorsement majors with a mathematics emphasis and/or to elementary education majors who want a mathematics concentration.*

Using mathematics to model solutions or relationships for realistic problems taken from the middle school curriculum. The mathematics for these models are a mix of algebra, geometry, sequences (dynamical systems, queuing theory), functions (linear, exponential, logarithmic), and logic. Mathematical terminology, concepts and principles. Calculator based lab devices, graphing calculators, and computers as tools to collect data, to focus on concepts and ideas, and to make the mathematics more accessible.

**304. Experimentation, Conjecture, and Reasoning** (3 cr) Lec. Prereq: Admission to the College of Education and Human Sciences. *Open only to middle grades teaching endorsement majors with a mathematics emphasis and/or to elementary education majors who want a mathematics concentration.*

How to express mathematical solutions and ideas logically and coherently in both written and oral forms in the context of problem solving. Inductive and deductive logical reasoning skills through problem solving. Present and critique logical arguments in verbal and written forms. Problem topics taken from topics nationally recommended for middle school mathematics.

**306. Number Theory and Cryptology for Middle Level Teachers** (3 cr) Lec 3. Prereq: Admission to the College of Education and Human Sciences. *MATH 306 is open only to middle school or elementary grades teaching endorsement program students.*

Basic number theory results which are needed to understand the number theoretic RSA cryptography algorithm. Primes, properties of congruences, divisibility tests, linear Diophantine equations, linear congruences, Chinese Remainder Theorem, Wilson's Theorem, Fermat's Little Theorem, Euler's Theorem, and Euler's phi function. Integers with connections to the middle school curriculum and mathematical reasoning.

**350. Concepts in Geometry** (3 cr) Lec. Prereq: MATH 310. *Open to MATH majors with degree option "E" and to students seeking a secondary mathematics teaching endorsement.*

Modern elementary geometry, plane transformations and applications, the axiomatic approach, Euclidean constructions. Additional topics vary.

**NOTE:** MATH 221, 221H, and any 300- or 400-level course taught in the Department of Mathematics may be substituted for MATH 208 as meeting the ES requirement for Area B.

## Advanced Mathematics Courses

**NOTE:** A prerequisite for all advanced courses is successful completion of a calculus sequence. A prerequisite for all 400-level courses is two advanced math courses.

(ACE 3) [ES][IS] **221/821. Differential Equations** (3 cr) Lec 3. Prereq: A grade of "P" or "C" or better in MATH 208/208H. *Not open to MA or MS students in mathematics or statistics.*

First- and second-order methods for ordinary differential equations including: separable, linear, Laplace transforms, linear systems, and some applications.

(ACE 3) [ES][IS] **221H. Honors: Differential Equations** (3 cr) Prereq: Good standing in the University Honors Program or by invitation. For course description, see MATH 221/821.

(ACE 3) [ES][IS] **238/838. Mathematical Methods for Biology and Medicine** (5 cr) Lec 5. Prereq: Grade of P, C, or better in MATH 106/106B or MATH 108H. *MATH 838 will not count toward an MA or MS degree in MATH or STAT. Some computation and visualizations in MATH 238/838 will be done with Matlab.* Mathematical modeling, discrete and continuous probability, parameter estimation, discrete and continuous dynamical systems, and Markov chains. Application of mathematical models in the life sciences. Methods include regression analysis, cobweb diagrams, the phase line, nullcline analysis, eigenvalue analysis, linearization, and likelihood analysis. Applications include fisheries, stage-structured populations, pharmacokinetics, epidemiology, and medical testing.

(ACE 3) [IS] **310. Introduction to Modern Algebra** (3 cr) Introduction to groups, rings, and fields as a natural extension of elementary number theory and the theory of equations. Particular emphasis on the study of polynomials with coefficients in the rationals, reals, or complex numbers.

(ACE 3) [IS] **310H. Honors: Introduction to Modern Algebra** (3 cr) Prereq: Good standing in the University Honors Program or by invitation. For course description, see MATH 310.

(ACE 3) [IS] **314/814. Applied Linear Algebra (Matrix Theory)** (3 cr) *Not open to MA or MS students in mathematics or statistics.* Fundamental concepts of linear algebra from the point of view of matrix manipulation with emphasis on concepts that are most important in applications. Includes solving systems of linear equations, vector spaces, inner products, determinants, eigenvalues, similarity of matrices, and Jordan Canonical Form.

(ACE 3) [IS] **314H. Honors: Applied Linear Algebra (Matrix Theory)** (3 cr) Prereq: Good standing in the University Honors Program or by invitation. For course description, see MATH 314.

**316. Case Studies in Theoretical Ecology** (BIOS, NRES 316) (3 cr) Lec 3. Prereq: Permission. *Case studies are structured around preparation for subsequent independent research (BIOS 498 or MATH 496).*

For course description, see BIOS 316.

**322/822. Advanced Calculus** (3 cr) *Not open to MA or MS students in mathematics or statistics.* Uniform convergence of sequences and series of functions, Green's theorem, Stoke's theorem, divergence theorem, line integrals, implicit and inverse function theorems, and general coordinate transformations.

(ACE 3) **324/824. Introduction to Partial Differential Equations** (3 cr) Prereq: MATH 221. *Not open to MA or MS students in mathematics or statistics.*

Derivation of the heat, wave, and potential equations; separation of variables method of solution; solutions of boundary value problems by use of Fourier series, Fourier transforms, eigenfunction expansions with emphasis on the Bessel and Legendre functions; interpretations of solutions in various physical settings.

**(ACE 3) [IS] 325. Elementary Analysis (3 cr)**

Introductory course emphasizing mastery of basic calculus concepts and the development of skill in constructing proofs. Includes mathematical induction, completeness of the real numbers, sequences and series, limits and continuity, derivatives, uniform convergence, Taylor's theorem, integration and the fundamental theorem of calculus.

**340/840. Numerical Analysis I (CSCE 340/840) (3 cr)** Prereq: Grade of "Pass" or "C" or better in CSCE 150E or 155/155H; MATH 208/208H. *Credit toward the degree may be earned in only one of the following: CSCE/MATH 340/840 and ENGM 480/880.* For course description, see CSCE 340/840.

**(ACE 3) 380. Statistics and Applications (STAT 380) Lec 3. (3 cr)** Prereq: MATH 107 or 107H. *Credit toward the degree cannot be earned in STAT 218 if taken after or taken in parallel with STAT/MATH 380.* For course description, see STAT 380.

**[ES][IS] 394. Topics in Contemporary Mathematics (3 cr, max 6)** Prereq: Sophomore standing and removal of all entrance deficiencies in mathematics. *MATH 394 is not intended for students who are required to take calculus. MATH 394 may be repeated if the subtitles differ. See the Schedule of Classes each term for the specific sections and subtitles offered.*

Topics course for students in academic fields not requiring calculus. Emphasis on understanding and mathematical thinking rather than mechanical skills. Topic varies.

**[IS] 405/805. Discrete and Finite Mathematics (3 cr)** Prereq: MATH 314 is desirable but not required. *Credit is not allowed for both MATH 105 and MATH 405, or for both CSCE 235 and MATH 405. Not open to math majors except for dual matriculants in the College of Education and Human Sciences. Not open to MA or MS students in mathematics or statistics.*

Graphs and networks. Map coloring. Finite differences. Pascal's triangle. The Pigeonhole Principle. Markov chains. Linear programming. Game Theory.

**407. Mathematics for High School Teachers I (3 cr)** Prereq: MATH 208 and 310.

Analysis of the connections between college mathematics and high school algebra and precalculus.

**408. Mathematics for High School Teachers II (3 cr)** Prereq: MATH 310 and 350.

Analysis of the connections between college mathematics and high school algebra and geometry.

**(ACE 10) [IS] 417. Introduction to Modern Algebra I (3 cr) Lec.** Prereq: MATH 310.

Elementary group theory and ring theory, including fundamental isomorphism theorems, ideals, quotient rings, domains, Euclidean or principal ideal rings, unique factorization, modules and vector spaces, including direct sum decompositions, bases, and dual spaces.

**423/823. Introduction to Complex Variable Theory (3 cr)**

Advanced introductory course for engineering, physical sciences, and mathematics majors. Complex numbers, functions of complex variables, analytic functions, complex integration, Cauchy's integral formulas, Taylor and Laurant series, calculus of residues and contour integration, conformal mappings, harmonic functions, and some applications.

**[IS] 425. Mathematical Analysis (3 cr)** Prereq: MATH 325 or permission.

Real number system, topology of Euclidean space and metric spaces, compactness, sequences, series, convergence and uniform convergence, and continuity and uniform continuity.

**427/827. Mathematical Methods in the Physical Sciences (3 cr)** Prereq: MATH 221. *Not open to mathematics majors. Not open to MA or MS students in mathematics.*

Matrix operations, transformations, inverses, orthogonal matrices, rotations in space. Eigenvalues and eigenvectors, diagonalization, applications of diagonalization. Curvilinear coordinate systems, differential operations in curvilinear coordinate systems, Jacobians, changes of variables in multiple integration. Scalar, vector and tensor fields, tensor operations, applications or tensors. Complex function theory, integration by residues, conformal mappings.

**(ACE 10) [IS] 428/828. Principles of Operations Research (3 cr)** Prereq: MATH 314 and either STAT 380 or IMSE 321 or equivalent.

Introduction to techniques and applications of operations research. Includes linear programming, queuing theory, decision analysis, network analysis, and simulation.

**[IS] 430/830. Ordinary Differential Equations I (3 cr) Lec.** Prereq: MATH 221.

Picard existence theorem, linear equations and linear systems, Sturm separation theorems, boundary value problems, phase plane analysis, stability theory, limit cycles, and periodic solutions.

**431/831. Ordinary Differential Equations II (3 cr) Prereq: MATH 430.**

Continuation of MATH 430.

**[IS] 432/832. Linear Optimization (3 cr) Prereq: MATH 314/814.**

Mathematical theory of linear optimization, convex sets, simplex algorithm, duality, multiple objective linear programs, formulation of mathematical models.

**433/833. Nonlinear Optimization (3 cr) Prereq: MATH 314/814.**

Mathematical theory of constrained and unconstrained optimization, conjugate direction and quasi-Newton methods, convex functions, Lagrange multiplier theory, constraint qualifications.

**439/839. Mathematical Models in Biology (3 cr) Prereq: MATH 107 or permission.** *MATH 439/839 has a small laboratory component.*

Discrete and continuous models in ecology, population models, predation and food webs, the spread of infectious diseases and life histories. Probability and random processes in nature, elementary models for molecular events, and pharmacokinetics.

**441/841. Approximation of Functions (CSCE 441/841) (3 cr)** Lec 3. Prereq: A programming language, MATH 221 and 314.

For course description, see CSCE 441/841.

**442. Methods of Applied Mathematics I (3 cr) Prereq: MATH 221 and 314, or their equivalents.**

Derivation, analysis, and interpretation of mathematical models for problems in the physical and applied sciences. Scaling and dimensional analysis. Asymptotics, including regular and singular perturbation methods and asymptotic expansion of integrals. Calculus of variations.

**445/845. Introduction to the Theory of Numbers I (3 cr) Lec.**

Prereq: MATH 310.

Arithmetic functions, congruences, reciprocity theorem, primitive roots, diophantine equations, and continued fractions.

**447/847. Numerical Analysis II (CSCE 447/847) (3 cr) Lec 3.**

Prereq: CSCE 340, MATH 221 and 314.

For course description, see CSCE 447/847.

**450/850. Combinatorics (3 cr) Lec.** Prereq: MATH 310 or 325.

Theory of enumeration and/or existence of arrangements of objects: Pigeonhole principle, inclusion-exclusion, recurrence relations, generating functions, systems of distinct representatives, combinatorial designs and other applications.

**452/852. Graph Theory (3 cr) Lec.** Prereq: MATH 450, or permission and either MATH 310 or 325. *Selected applications.*

Theory of directed and undirected graphs. Trees, circuits, subgraphs, matrix representations, coloring problems, and planar graphs. Methods which can be implemented by computer algorithms.

**456/856. Differential Geometry I (3 cr) Prereq: MATH 221, 314, and 322.**

Introduction to a selection of topics in modern differential manifolds, vector bundles, vector fields, tensors, differential forms, Stoke's theorem, Riemannian and semi-Riemannian metrics, Lie Groups, connections, singularities. Includes gauge field theory, catastrophe theory, general relativity, fluid flow.

**465/865 [865T]. Introduction to Mathematical Logic I (3 cr)**

Semantical and syntactical developments of propositional logic, discussion of several propositional calculi, applications to Boolean algebra and related topics, semantics and syntax of first-order predicate logic including Gödel's completeness theorem, the compactness theorem.

**(ACE 10) 489/889. Stochastic Processes and Advanced Mathematical Finance (3 cr) Lec 3.** Prereq: MATH 221/821 and/or STAT/MATH 380 or STAT 880.

Properties of stochastic processes and solutions of stochastic differential equations as a means of understanding modern financial instruments. Derivation and modeling of financial

instruments, advanced financial models, advanced stochastic processes, partial differential equations, and numerical methods from a probabilistic point of view.

**\*800T. Mathematics as a Second Language (3 cr)** Prereq: Admission to the MAT or MScT program in mathematics or to a graduate program in the College of Education and Human Sciences. *Intended for middle-level mathematics teachers.*

**\*802T. Functions, Algebra, and Geometry for Middle Level Teachers (3 cr)** Prereq: Admission to the MAT or MScT program in mathematics or to a graduate program in the College of Education and Human Sciences. *Intended for middle-level mathematics teachers.*

**\*804T. Experimentation, Conjecture and Reasoning (3 cr) Prereq:** Admission to the MAT or MScT program in mathematics or to a graduate program in the College of Education and Human Sciences. *Intended for middle-level mathematics teachers.*

**805T. Discrete Mathematics for Middle Level Teachers (3 cr) Prereq:** Admission to the MAT-MScT program in mathematics or to a graduate program in the College of Education and Human Sciences.

**\*806T. Number Theory and Cryptology for Middle Level Teachers (3 cr) Prereq:** Admission to the MAT or MScT program in mathematics or to a graduate program in the College of Education and Human Sciences. *Intended for middle-level mathematics teachers.*

**807T. Using Mathematics to Understand our World (3 cr) Prereq:** Admission to the MAT-MScT program in mathematics or to a graduate program in the College of Education and Human Sciences. *This course is designed to strengthen the mathematics knowledge of middle-level mathematics teachers.*

**808T. Concepts of Calculus for Middle Level Teachers (3 cr) Prereq:** Admission to the MAT-MScT program in mathematics or to a graduate program in the College of Education and Human Sciences. *This course is designed to strengthen the mathematics knowledge of middle-level mathematics teachers.*

**817 [817T]. Introduction to Modern Algebra I (3 cr) Prereq:** MATH 310 is advisable for most students.

**818. Introduction to Modern Algebra II (3 cr) Prereq:** MATH 417/817.

**826. Mathematical Analysis II (3 cr) Prereq:** MATH 825.

**842. Methods of Applied Mathematics I (3 cr) Prereq:** MATH 221 and 314, or their equivalents.

**843. Methods of Applied Mathematics II (3 cr) Prereq:** MATH 442 or permission.

**871 [871T]. General Topology I (3 cr)**

**872. General Topology II (3 cr) Prereq:** MATH 871.

Refer to the Graduate Bulletin for 900-level courses.

## Seminars, Independent Study, Topics and Reading Courses (MATH)

**198. Freshman Seminar (1-3 cr, max 6) Lec. Pass/No Pass only.**

**198H. Honors: Freshman Seminar (1-3 cr, max 6) Prereq:** Good standing in the University Honors Program or by invitation.

**398. Special Topics in Mathematics (1-24 cr) Prereq:** Permission.

**399. Independent Study in Mathematics (1-24 cr) Prereq:** Prior arrangement with and permission of individual faculty member.

**399H. Honors Course (1-4 cr) Prereq:** For candidates for degrees with distinction, with high distinction, or with highest distinction in the College of Arts and Sciences.

**495/895. Seminar (1-3 cr per sem, max 6) Prereq:** MATH 208 and permission.

**496/896. Seminar in Mathematics (1-3 cr per sem, max 6) Prereq:** Permission.

497/897. Reading Course (1-4 cr) Prereq: Open to graduate students and, with permission, to seniors and especially qualified juniors.

899. Masters Thesis (6-10 cr)

Refer to the Graduate Bulletin for 900-level courses.

## Medieval and Renaissance Studies

**Director:** Carole Levin, 605 Old Father Hall  
**Chief Adviser:** Peter Lefferts, 368 Westbrook Music Building

**Faculty:** Anthanassopoulos (anthropology); Ertl, Handa, Hinchman (architecture); Bolland, Stewart (art); S. Burnett, Lahey, Turner (classics); Buhler, Nissé, Schleck (English); A. Burnett, S. Burnett, Cope, Levin (history); Carr, Ganim, Hayden-Roy, E. Jacobson, Pereira, Wilhelmsen (modern languages); Lefferts, Starr (music); Ide (philosophy); Borden (theatre)

### Requirements for the Major in Medieval and Renaissance Studies

- The major** requires 30 hours of approved courses. Twelve hours must be taken above 299. Students are strongly advised to fulfill the College language requirement with a language that complements their area of concentration.
- Assessment:** To assist us in evaluating the program's effectiveness, each major is asked to submit to the program adviser before graduating 1) a copy of the honors thesis or a research paper written in the student's junior or senior year and 2) a completed senior exit questionnaire (see the program adviser for details). Results of participation in this assessment activity will in no way affect students' GPA or graduation.
- Core Courses** (for a total of 15 hours):
  - Two of the following:
    - HIST 211 Middle Ages
    - HIST 212 Early Modern Europe to 1789
    - HIST 321 Renaissance & Reformation
    - HIST 414 Medieval Culture
    - HIST 420 The Italian Renaissance
    - HIST 421 The Age of Religious Reform
  - One of the following:
    - CLAS 282 World of Classical Rome (ENGL 240B)
    - ENGL 362 Intro to Medieval Literature
    - ENGL 363 Intro to Renaissance Literature
    - GERM 445 16th Century German Literature
    - RELG 206 Ways of Western Religion
    - SPAN 421 Medieval Literature
    - SPAN 441 Golden Age Poetry
    - SPAN 442 Golden Age Prose
  - One of the following:
    - AHIS 216 Medieval Art
    - AHIS 221 Italian Renaissance Art
    - AHIS 226 Northern Renaissance Art
    - PHIL 336 Ethics: Ancient & Medieval
    - PHIL 337 Knowledge: Ancient & Medieval
    - PHIL 338 Metaphysics: Ancient & Medieval
  - Electives: 9 hours from courses listed below
- One of the following:**
  - AHIS 216 Medieval Art
  - AHIS 221 Italian Renaissance Art
  - AHIS 226 Northern Renaissance Art
  - PHIL 336 Ethics: Ancient & Medieval
  - PHIL 337 Knowledge: Ancient & Medieval
  - PHIL 338 Metaphysics: Ancient & Medieval
- One of the following:**
  - CLAS 180. Classical Mythology
  - CLAS 281. The World of Classical Greece (ENGL 240A)
  - CLAS 282. The World of Classical Rome (ENGL 240B)

**Electives:** 15 hours, selected in consultation with the adviser to form a coherent area of concentration. The 15 hours must include courses from at least two of the following three areas: history, literature and the humanities, and the visual and performing arts. Courses must be chosen from the list of course offerings for Medieval and Renaissance Studies listed below.

**Pass/No Pass.** Students must obtain permission from the program adviser to take courses for Pass/No Pass credit. Request forms are available in the Arts and Sciences Advising Center, 107 Oldfather Hall.

### Requirements for the Minor in Medieval and Renaissance Studies

- The minor requires a minimum of 18 hours of study, 6 credits above 299.
- Required courses (for a total of 9 hours):
  - One of the following:
    - HIST 211 Middle Ages
    - HIST 212 Early Modern Europe to 1789
    - HIST 321 Renaissance & Reformation
    - HIST 414 Medieval Culture
    - HIST 420 The Italian Renaissance
    - HIST 421 The Age of Religious Reform
  - One of the following:
    - CLAS 282 The World of Classical Rome (ENGL 240B)
    - ENGL 362 Intro to Medieval Literature
    - ENGL 363 Intro to Renaissance Literature
    - GERM 445 16th Century German Literature
    - RELG 206 Ways of Western Religion
    - SPAN 421 Medieval Literature
    - SPAN 441 Golden Age Poetry
    - SPAN 442 Golden Age Prose
  - One of the following:
    - AHIS 216 Medieval Art
    - AHIS 221 Italian Renaissance Art
    - AHIS 226 Northern Renaissance Art
    - PHIL 336 Ethics: Ancient & Medieval
    - PHIL 337 Knowledge: Ancient & Medieval
    - PHIL 338 Metaphysics: Ancient & Medieval
- Electives: 9 hours from courses listed below

### Medieval and Renaissance Studies Courses (by department)

#### Architecture

ARCH 340 Architectural History & Theory I

#### Art and Art History

AHIS 101. Intro to Art History & Criticism I  
 AHIS 102. Intro to Art History & Criticism II  
 AHIS 216. Medieval Art  
 AHIS 221. Italian Renaissance Art  
 AHIS 226. Northern Renaissance Art  
 AHIS 318. Late Medieval Art in Europe  
 AHIS 321. Early Renaissance Art  
 AHIS 322. High Renaissance & Mannerist Art  
 AHIS 418. Gothic Painting & Prints  
 AHIS 421. The Italian Renaissance City  
 AHIS 426. Northern Renaissance & Reformation Art  
 AHIS 476. History of Prints

#### Classics and Religious Studies

CLAS 180. Classical Mythology  
 CLAS 281. The World of Classical Greece (ENGL 240A)  
 CLAS 282. The World of Classical Rome (ENGL 240B)

CLAS 307. Early Christianity (HIST/RELG 307)  
 CLAS 315. Medieval World: Byzantium (HIST 315)  
 CLAS 381. The Ancient Novel (ENGL 381)  
 CLAS 409. Religion of Late Antiquity (HIST, RELG 409)

CLAS 410. Gnosticism (HIST, RELG 410)  
 CLAS 483. Classical Drama (ENGL 440)  
 LATN 456. Latin of the Middle Ages  
 RELG 340. Women in the Bible (JUDS, WMNS 340)  
 RELG 489. Medieval Literature & Theology (ENGL 489)

#### English

ENGL 210L. Arthur in Literature & Legend  
 ENGL 230. English Authors to 1800  
 ENGL 230A. Shakespeare  
 ENGL 315A. Survey of Women's Literature: Medieval Women Authors  
 ENGL 330E. Chaucer/Shakespeare/Milton  
 ENGL 340. Classical Roots of English Literature  
 ENGL 362. Intro to Medieval Literature  
 ENGL 363. Intro to Renaissance Literature  
 ENGL 426. History of the English Language  
 ENGL 430A. Shakespeare I  
 ENGL 462. Survey of Medieval Literature  
 ENGL 463. Survey of Renaissance Literature  
 ENGL 489. Medieval Literature & Theology (RELG 489)

#### History

HIST 100. Western Civilization to 1715  
 HIST 211. History of Middle Ages  
 HIST 212. History of Early Modern Europe to 1789  
 HIST 217. Israel: The Holy Land (JUDS, RELG 217)  
 HIST 218. History of Islam  
 HIST 219. Intro to Jewish History (JUDS, RELG 219)  
 HIST 220. History of Christianity  
 HIST 231. English History: Stonehenge through the Glorious Revolution  
 HIST 261. Russia to the Era of Catherine the Great  
 HIST 301. Pre-Industrial Europe  
 HIST 307. Early Christianity (CLAS, RELG 307)  
 HIST 318. Roman Empire  
 HIST 321. The Age of the Renaissance & Reformation  
 HIST 322. Age of the Baroque  
 HIST 331. Ancient Israel (CLAS, JUDS, RELG 331)  
 HIST 332. Jews in the Middle Ages (JUDS, RELG 332)  
 HIST 409. Religion of Late Western Antiquity (CLAS, RELG 409)

HIST 414. Medieval Culture  
 HIST 420. The Italian Renaissance  
 HIST 421. Age of Religious Reform: 1300-1650  
 HIST 430. Early European History Through Biography  
 HIST 431. Medieval England  
 HIST 432. England: Reformation to Revolution, 1530-1660  
 HIST 436. Saints, Witches & Madwomen

#### Modern Languages and Literature

GERM 445. 16th Century German Literature  
 SPAN 314. Representative Authors I  
 SPAN 315. Representative Authors II  
 SPAN 421. Medieval Literature  
 SPAN 441. Golden Age Poetry  
 SPAN 442. Golden Age Prose

#### Music

MUSC 365. Music History & Literature I  
 MUSC 449. Medieval Music  
 MUSC 451. Music & the Church  
 MUSC 486. Music of the Renaissance

#### Philosophy

PHIL 231. History of Philosophy (Ancient)  
 PHIL 336. Ethics: Ancient & Medieval  
 PHIL 337. Knowledge: Ancient & Medieval  
 PHIL 338. Metaphysics: Ancient & Medieval  
 PHIL 450. Ancient Philosophy

**Theatre Arts**

THEA 335. History of Theatre I

THEA 401. Advanced Acting (*if it focuses on Greeks and Shakespeare*)

**NOTE:** "Special topics" courses, Honors Program seminars, graduate seminars (some of which are open to undergraduates with permission), and other such courses may also count for Medieval and Renaissance studies credit. For information regarding whether a specific course may count toward the major or minor, contact the Medieval and Renaissance Studies adviser.

## Modern Languages and Literatures

Chair: Russell Ganim, 1111 Oldfather Hall

Vice Chair: Radha Balasubramanian

Professors: Carr, Fouletier-Smith, Ganim, E. Jacobson, M. Jacobson, Olds, Stump, Turner

Associate Professors: Balasubramanian, Brantner, González, Hayden-Roy, Mejias-Bikandi, Nickel, Pereira, Saskova-Pierce, Shirer, Wilhelmsen

Assistant Professors: Amano, González-Allende, Guevara, Kalisa, Ran

The Department of Modern Languages and Literatures offers courses in German, Japanese, the Romance Language group (French, Spanish), and the Slavic group (Czech, Russian). Whenever possible, the courses are conducted in the language that is studied. The aim of instruction is reading, writing, aural and oral proficiency, and an understanding of the life, literature, and culture of the country. Lectures and films in the language studied are offered during the school year for the benefit of the students in the department. Language laboratories supplement class work.

**Placement**

Incoming students who wish to enter the University's language program in French, Spanish, and German are required to take the Computer Assisted Placement Examination (CAPE). The results of the placement exam, together with training in a secondary school university, or other prior second language environments, will assist students in finding the level at which they will have the greatest opportunity for success. The examination results will be used in combination with advising to determine appropriate placement in the sequence of courses offered within the department's curriculum. CAPE is administered in the language laboratory (302 Burnett Hall). Those students exempted from this requirement are expected to enroll in a first semester elementary course (101). Students qualifying for this exemption are defined as follows:

1. Students with no previous second language exposure whatsoever.
2. Students whose second language exposure amounts to one year or less at the US high school level.
3. Students who wish to begin study of a new language other than those previously studied.

For other languages, placement is generally determined by the following criteria for students who come to the University with:

1. 1 semester of a language in high school should take 101 (same language or a new one);
2. 2 or 3 semesters in high school should take 102 (same language);
3. 4 or 5 semesters in high school should take 201;
4. 6 semesters in high school should take 202;
5. 8 semesters or more in high school should take 203.

The department participates in the following interdisciplinary study programs: European Studies, Institute for Ethnic Studies, International Studies, Judaic Studies, Latin American Studies, Medieval and Renaissance Studies, and Women's and Gender Studies. See the index for a guide to these programs.

Students may receive full credit at the University of Nebraska for study abroad programs in many countries, among these are Costa Rica, France, Germany, Spain, Mexico, Russia, Japan, and the Czech Republic. See the index for a guide to these programs.

**Pass/No Pass.** No courses in the department may be taken by students majoring or minoring in modern languages for Pass/No Pass credit.

**Auditing.** Audits are allowed in 101 in French, German and Spanish only upon recommendation of the Modern Language Placement Advisers. Otherwise no audits are allowed in 100- and 200-level classes.

## Requirements for the Major in Modern Languages

**French**—24 hours of courses numbered 300 or above including 301, 302, 303 and 304, and 9 hours at the 400 level. Three hours at the 400 level must be in literature courses.

**German**—20 hours of courses numbered 300 or above including 301, 302, 303 and 304, and 6 hours at the 400 level.

**Russian**—21 hours of courses numbered 300 or above, including 303 and 304 and 6 hours at the 400 level.

**Spanish**—24 hours of courses numbered at 305 or above. In addition, students choose 6 hours from 317, 319, 321, 331; 6 hours from 311, 312, 314, 315; and 9 hours at the 400 level, with at least 6 of these hours in literature courses.

A minor is required and may be taken in any area.

**French and Russian**

**Program Assessment.** In order to assist the department in evaluating the effectiveness of its programs, majors will be required to assemble and maintain a portfolio. In their junior year, majors will be assigned a faculty adviser who will inform students of the required contents of the portfolio, deadlines and procedures. During their last semester, French and Russian majors will be required to provide oral and written assessment for their portfolios.

Results of participation in this assessment activity will in no way affect a student's GPA or graduation.

**German**

**Program Assessment.** In order to assist the department in evaluating the effectiveness of its programs, majors will be required to assemble and maintain a portfolio. In their junior year, majors will be assigned a faculty adviser who will inform students of the required contents of the portfolio, deadlines and procedures. By their senior year, majors will be required to complete a taped oral proficiency interview.

Results of participation in this assessment activity will in no way affect a student's GPA or graduation.

**Spanish**

**Program Assessment.** In order to assist the department in evaluating the effectiveness of its programs, majors will be required to assemble a portfolio. A faculty adviser will inform students of the required contents of the portfolio, deadlines and procedures. During their last semester, Spanish majors will be required to provide oral and written materials for their portfolios.

Results of participation in this assessment activity will in no way affect a student's GPA or graduation.

## Requirements for the Minor in Czech, French, German and Russian

- Czech offers a Plan B minor only.

**Plan A.** 12 hours in one language at the 300 level or 400 level, including at least 6 hours from 301, 302, 303, 304, and 3 hours at the 400 level.

**Plan B.** 6 hours in one language, in courses numbered above 300, including at least 3 hours from 301, 302, 303, 304.

**Plan B.** 9 hours in French in courses numbered above 300, including at least 3 hours from 301, 302, 303, 304.

## Requirements for the Minor in Japanese

**Plan A.** 6 hours in Japanese language, in courses numbered above 300, including at least 3 hours from 301, 302, 303, 304.

**Plan B.** 22 hours of Japanese language course work including 101, 102, 201, 202, 203, 204.

## Requirements for the Minor in Spanish

**Plan A.** 12 hours of courses numbered at 305 or above. In addition to 305 (which is compulsory for Plan A), 6 hours from 311 and 312, 314, 315; and 3 hours from 317, 319, 321 or 331.

**Plan B.** 6 hours from 305, 317, 319, 321, or 331.

**Literature in Translation**

The Department offers the following literature in translation courses for which **no knowledge of a foreign language is necessary**. Check the *Schedule of Classes* to determine which are being taught in any given semester: MODL 234D Major Themes in

World Literature; 298/398 Special Topics; 470 Introduction to Literary Criticism; FREN and GERM 282 Literature in Translation; 264-265 Spanish-American Literature in Translation; MODL/GERM 442/842 Survey of Medieval German Literature in Translation and RUSS 482, 483.

**Graduate Work.** The advanced degrees of master of arts and doctor of philosophy are offered in French, German, and Spanish. For details, see the *Graduate Studies Bulletin*.

## Courses of Instruction

Note on course sequences 101, 102; 201, 202; 110, 210: Courses in these sequences may not be taken out of order. Students must pass the prerequisite course, or have the appropriate high school credits, before taking the next course in the sequence, and may not take an earlier course in any sequence for credit once they have received credit in a later course in any sequence.

### Modern Languages (MODL)

[ES] 177. **The Holocaust in Literature and Film** (JUDS 177) (3 cr)

Experience of Jews in Europe from 1933-1945. Issues of racism and religious prejudice and assumptions about humanism, tolerance and progress.

[ES][IS] 189H. **University Honors Seminar** (3 cr) Prereq: Good standing in the University Honors Program or by invitation.

*University Honors Seminar 189H is required of all students in the University Honors Program.*

Topic varies.

198. **Special Topics** (1-24 cr) Prereq: Permission. *Special topic to be covered in any given semester and credit to be awarded are determined by the instructor.*

Consideration of topics in the area of language, literature, and civilization.

200. **Introduction to Language** (3 cr) *This course is designed for students who have had 3 years of high school language or 2 semesters in college. Students must have had a foreign language at the 102 level or above or the equivalent to register for MODL 200. Credit is allowed for only one of the courses: MODL 200 or CLAS 100.*

Assumes a certain familiarity with the mechanics of language analysis. Phonology, morphology, and syntax reviewed, then treats language-related issues such as the relationship of language to thought and culture, animal communication vs. human language, language families, dialects and social use of language, how children acquire language, and language change.

**NOTE:** Students who entered UNL before May, 1993, may count MODL 200 toward fulfillment of the arts and sciences language requirement. Students entering UNL in the fall semester, 1993 and after, will not be able to count MODL 200 toward the fulfillment of the arts and sciences language requirement.

[ES] 232. **The Jewish Idea in Modern Literature** (ENGL 232) (3 cr)

Introduction to the literary and historical context of Jewish cultural life as expressed in modern works of literature in translation and cinema by Jewish intellectuals.

[ES] 234D. **Major Themes in World Literature** (ENGL 234D) (3 cr) *Open to all undergraduates.*

Through the study of masterpieces read in translation, explores the ideas and motifs that define the major literary expressions of the human experience. Includes the rebel, love, madness, representations of gender, the quest, childhood.

[ES] 285. **Introduction to Comparative Literature** (ENGL 285) (3 cr) Prereq: Sophomore standing and at least 3 cr in literature in English or modern languages.

For course description, see ENGL 285.

298. **Special Topics** (1-24 cr) Prereq: Permission. *Special topic to be covered in any given semester and credit to be awarded are determined by the instructor.*

Consideration of topics in the area of language, literature, and civilization.

398. **Special Topics** (1-24 cr) Prereq: Permission. *Special topic to be covered in any given semester and credit to be awarded are determined by the instructor.*

Consideration of topics in the area of language, literature, and civilization.

[IS] 442/842. **Survey of Medieval German Literature in Translation** (GERM 442/842) (3 cr) Prereq: Permission or GERM 302 for German majors.

For course description, see GERM 442/842.

454/854. **Russian Intellectual Tradition** (RUSS 454/854) (3 cr)

Prereq: Junior standing.

Major Russian thinkers from 1700 to the present. Focus on the evolution of ideas in the Russian context and the relationship between Russian and European thought.

498/898. **Special Topics** (1-24 cr) Prereq: Permission. *Special topic to be covered in any given semester and credit to be awarded are determined by the instructor.*

Consideration of topics in the area of language, literature, and civilization.

870. **Introduction to Literary Criticism** (3 cr) Prereq: Senior or graduate standing.

880. **Seminar in Applied Linguistics and Methodology** (3 cr) Prereq: Graduate standing.

Refer to the Graduate Bulletin for 900-level courses.

### Interdisciplinary Seminars

443/843. **Dante and His Times** (3 cr each)

The *Divina Commedia* and some minor works; extensive readings in the social background of the thirteenth and fourteenth centuries.

[IS] 478/878. **Pro-seminar in Latin American Studies** (LAMS 478; ANTH, EDPS, GEOG, HIST, POLS, SOCI 478/878) (3 cr, max 6) Prereq: Junior standing and permission. *Topical seminar required for all Latin American Studies majors.*

For course description, see ANTH 478/878.

Refer to the Graduate Bulletin for 900-level courses.

### Chinese (CHIN)

101. **Beginning Chinese I** (5 cr) Lec 5.

Fundamentals of the Language. Speaking and listening. Transcription of Chinese sounds in Roman letters (in Pinyin system). Reading and writing of characters.

102. **Beginning Chinese II** (5 cr) Lec 5. Prereq: CHIN 101 or equivalent. *CHIN 102 is a continuation of CHIN 101.*

Grammar, reading, writing, and listening. Conversational exercises based on the texts.

201. **Second-Year Chinese I** (3 cr) Lec 3. Prereq: CHIN 102 or equivalent. *CHIN 201 is a continuation of CHIN 102.*

Intensive development of reading, writing, listening competence, and reading accuracy.

202. **Second-Year Chinese II** (3 cr) Lec 3. Prereq: CHIN 201 or equivalent. *CHIN 202 is a continuation of CHIN 201.*

Develop a higher level of accuracy in writing. Reading of more difficult texts.

303. **Third-Year Chinese** (3 cr) Lec 3. Prereq: CHIN 202 or equivalent.

Modern standard Chinese for non-native speakers. Linguistic elements and cultural information. Listening, speaking, reading, and writing.

304. **Advanced Conversation and Composition Chinese** (3 cr) Lec 3. Prereq: CHIN 303 or equivalent. *CHIN 304 is an intermediate to advanced level Chinese course.*

Authentic Chinese culture and languages. Speaking and writing skills.

### Czech (CZEC)

101. **Beginning Czech I** (5 cr)

Readings, writings, conversation and listening comprehension topics include family, personal information and various aspects of the Czech cultural and social life.

102. **Beginning Czech II** (5 cr) Prereq: CZEC 101 or equivalent. Continuation of CZEC 101. Introduction to deference rules. Selections from contemporary media. Syntax of more complex sentences.

201. **Second-Year Czech I** (3 cr) Prereq: CZEC 102 or equivalent.

Authentic listening and reading materials from contemporary media. Development of skills for travel and study in the Czech Republic. Introduction to Czech literature.

202. **Second-Year Czech II** (3 cr) Prereq: CZEC 201 or equivalent. Continuation of CZEC 201. Preparation for a stay in the Czech Republic.

[ES] 301. **Representative Authors I** (3 cr) Prereq: CZEC 202 or equivalent. Masterpieces of Czech literature from the 9th to twentieth century. The fate of literary language. Oral and written essays.

[ES] 302. **Representative Authors II** (3 cr) Prereq: CZEC 301 or equivalent. Continuation of CZEC 301. Czech literature and literary theory of the twentieth century. The contemporary situation including emigre authors. The relation of Czech literature to the literature of other Western cultures.

398. **Special Topics** (1-3 cr, max 12) Prereq: CZEC 202 or equivalent. *May be taken more than once.*

Topics vary among Czech representative authors of prose, poetry, and advanced composition.

### French (FREN)

**Block Courses:** Block courses combine two semesters of study into one by allowing two complementary courses to be taken at the same hour, five days per week, for 6 credits. The following courses may be blocked: FREN 201 and 202 can be taken as 210; FREN 203 and 204. Separate registration for each course is necessary. See the *Schedule of Classes* for details.

101. **Beginning French I** (5 cr) *FREN 101x does not count toward the liberal education requirements except by permission of the departmental chair.*

Main emphasis on the development of comprehension of written and spoken French; reading of simple texts dealing primarily with contemporary France and French life; oral and aural drill supplemented by practice in language laboratory.

102. **Beginning French II** (5 cr) Prereq: FREN 101 or equivalent score on French Language Placement Exam. *FREN 102x does not count toward the liberal education requirements except by permission of the departmental chair.*

Continuation of FREN 101.

181. **Beginning Grammar and Readings** (3 cr) Open to graduate students, juniors, and seniors. *Does not apply to the liberal education requirements. The sequence of FREN 181 and 281 is designed primarily to meet the needs of graduate students preparing for the French reading examination.*

Rapid course in the essentials of grammar designed to prepare mature students for reading various types of literary or technical prose texts.

201. **Second-Year French I** (3 cr) Prereq: FREN 102 or equivalent score on French Language Placement Exam.

Practice in oral and written expression and introduction to narrative texts. Grammar review and vocabulary expansion are tied to different situations of interaction.

202. **Second-Year French II** (3 cr) Prereq: FREN 201 or equivalent score on French Language Placement Exam.

Continuation of FREN 201, with emphasis on reading comprehension. Class discussion in French based on texts.

**203. Conversation and Composition I** (3 cr) Lec 3. Prereq: FREN 202 or equivalent score on French Language Placement Exam. Guided practice in speaking and writing French.

**204. Conversation and Composition II** (3 cr) Prereq: FREN 203 or equivalent score on French Language Placement Exam. Continuation of FREN 203.

**210. Accelerated Second-Year French** (6 cr) Prereq: FREN 102 or equivalent score on French Language Placement Exam. Covers the same material as FREN 201-202 and counts as 201-202 in satisfying the liberal education requirements of the College of Arts and Sciences.

[ES] **282. French Literature in Translation** (1-24 cr) Prereq: 6 hrs courses in literature. *Permission for a student to take these courses more than once may be obtained from the instructor if the area of concentration has been changed.*

Masterpieces of French literature in translation. Selected texts to be announced in the schedule and course description booklet.

[ES][IS] **301. Representative Authors I** (3 cr) Prereq: FREN 204 or equivalent.

Reading of masterpieces from the Middle Ages to the present.

[ES][IS] **302. Representative Authors II** (3 cr) Prereq: FREN 204 or equivalent.

Reading of masterpieces from the Middle Ages to the present.

**303. Advanced Composition, Grammar, and Conversation I** (3 cr) Prereq: FREN 204 or equivalent.

Emphasis on written and oral expression. Review of difficult concepts of French grammar.

(ACE 2) **304. Advanced Composition, Grammar, and Conversation II** (3 cr) Prereq: FREN 303 or equivalent.

Continuation of FREN 303.

**307. French for Business and Commerce I** (3 cr) Prereq: FREN 204 or permission.

Initiates a special sequence of particular interest to students of international business and international affairs. French economy, business practices and documents, business correspondence, commercial and economic vocabulary.

**308. French for Business and Commerce II** (3 cr) Prereq: FREN 307 or permission.

Continuation of FREN 307.

**317. Introduction to Linguistics** (1-3 cr) Prereq: FREN 204 or equivalent.

**319. French Phonetics** (3 cr) Prereq: FREN 204 or equivalent. Analysis of French sounds, meaningful contrasts, stress and intonation patterns; correction of specific mistakes in pronunciation. Phonetic transcription, studies in articulation and aural training with use of recordings and individualized exercises.

[ES][IS] **321. French Civilization I** (3 cr) Prereq: FREN 204 or equivalent.

Survey of French social, cultural, and political history and of significant contributions in arts and letters through the eighteenth century. Lectures given in French are supplemented by slides and class discussion.

[ES][IS] **322. French Civilization II** (3 cr) Prereq: FREN 204 or equivalent.

French 321 continued to the present.

[ES][IS] **323. Aspects of Francophone Civilization** (3 cr) Prereq: FREN 204 or equivalent.

Deals with at least two of the following non-European Francophone areas; Canada and French pockets in the US; the Caribbean; the Magreb; and Sub-Saharan Africa. Other areas such as Southeast Asia or Polynesia may be included. Examines the culture of the areas in light of social and political problems arising from colonization and independence as reflected in literature, film, popular culture, and the fine arts.

**399. Independent Study in French** (1-24 cr) Prereq: Permission. Special research project or reading program under the direction of a staff member in the department.

**399H. Honors Course** (1-4 cr) Prereq: Open to candidates for degrees with distinction, with high distinction, and with highest distinction in the College of Arts and Sciences and to seniors and especially qualified juniors, with consent of the instructor.

**403/803. Advanced Grammar** (3 cr) Prereq: FREN 303 and 304. Detailed analysis of French syntax giving students the means to achieve greater sophistication in self-expression.

**404/804. French Stylistics** (3 cr) Prereq: FREN 304. Principles of explication of texts, translation and composition in French, review of linguistic principles, for advanced students, particularly prospective teachers, who wish to acquire a more sophisticated means of expression in French.

[IS] **406/806. Translation** (3 cr) Prereq: FREN 303 and 304. Principles of translation, French-English and English-French. Attention to problems of vocabulary, syntax, semantics, and technical, literary, and commercial translation.

**422/822. Topics in French Civilization** (3 cr) Prereq: 6 hrs at the 300 level. Analysis of interrelationships of cultural, social, economic, and political factors contributing to French culture and civilization.

[IS] **441/841. French Literary Treasures of the Middle Ages** (3 cr) Prereq: FREN 301 and 302, or permission.

French medieval short story, epic, novel, farce, satire, read in modern French. May include the *Song of Roland*, *Lais*, of Marie de France, *Tristan*, a romance by Chrétien de Troyes such as *Erec et Enide*, the satire of *Aucassin et Nicolette*, the farce of Pathelin, Villon's *Testament*.

(ACE 10) [IS] **445/845. 17th Century I** (3 cr) Prereq: FREN 301 and 302 or permission.

The plays of Corneille, Moliere, Racine.

(ACE 10) [IS] **446/846. 17th Century II** (3 cr) Prereq: FREN 301 and 302 or permission.

Prose and poetry.

(ACE 10) [IS] **449/849. 18th Century I** (3 cr) Prereq: FREN 301 and 302 or equivalent.

Philosophical writings and the theatre of eighteenth century France.

[IS] **450/850. 18th Century II** (3 cr) Prereq: FREN 301 and 302, or equivalent.

Works of Voltaire, Rousseau, Montesquieu, Diderot. Lectures, discussion, and reports.

(ACE 10) [IS] **453/853. French Literature 19th Century I** (3 cr) Prereq: FREN 301 and 302, or permission.

Readings in the major developments in narrative, drama, poetry and the essay from 1800 to 1860. Authors include Balzac, Hugo, Stendhal, Nerval and Gauthier.

[IS] **454/854. French Literature 19th Century II** (3 cr) Prereq: FREN 301 and 302, or permission.

Readings in the major developments in prose and verse from 1850 to 1900. Authors include Baudelaire, Mallarme, Rimbaud and Verlaine.

(ACE 10) [IS] **457/857. 20th Century French Literature I** (3 cr) Prereq: FREN 301 and 302, or equivalent.

Main trends in the French novel from 1900 to the present.

(ACE 10) [IS] **458/858. 20th Century French Literature II** (3 cr) Prereq: FREN 301 and 302, or equivalent.

Main trends in French poetry and theater from 1900 to the present.

(ACE 10) [IS] **459/859. Literature of French Canada** (3 cr) Prereq: FREN 301 and 302, or permission.

Survey of literature of French Canada in its cultural context.

[IS] **460/860. Francophone Literature** (3 cr) Lec 3. Prereq: FREN 301 and 302.

Survey of literature and film from French speaking African and Caribbean cultures.

[IS] **461/861. Studies in Francophone Literature and Cultures** (3 cr) Lec 3. Prereq: FREN 301 and 302.

A topic, genre, author, and geographical area of the African Diaspora.

**496/896. Independent Study in French** (1-24 cr) Prereq: Permission.

Special research project or reading program under the direction of a staff member in the department.

**498/898. Special Topics in French** (1-24 cr) Prereq: Permission. *Specific topic to be covered in any given semester and credit to be awarded to be determined by the instructor at that time.*

Language, literature, and civilization.

**899. Masters Thesis** (6-10 cr)

Refer to the Graduate Bulletin for 900-level courses.

## German (GERM)

**101. Beginning German I** (5 cr)

Introduction to contemporary German. Stresses oral and written communication, reading and aural comprehension.

**102. Beginning German II** (5 cr) Prereq: GERM 101 or equivalent score on German Language Placement Exam.

Continuation of GERM 101. Readings on contemporary cultural and social issues in German-speaking countries.

**181. Beginning Grammar and Reading** (3 cr) Prereq: Open to juniors, seniors, and graduates beginning their German. *Does not apply on the liberal education requirements.*

Rapid course in the essentials of grammar followed by reading of varied types of literary and technical publications. For mature students; also designed to meet the needs of graduates preparing for the German reading examination.

**201. Second-Year German I** (3 cr) Prereq: GERM 102 or equivalent score on German Language Placement Exam.

Intensive and extensive reading of moderately difficult German prose, review of grammar, conversational exercises based on the texts.

**202. Second-Year German II** (3 cr) Prereq: GERM 201 or equivalent score on German Language Placement Exam.

Continuation of GERM 201. Reading of more difficult texts. Class discussion and reports on supplementary reading.

[IS] **203. Composition and Conversation I** (3 cr) Prereq: GERM 202 or equivalent score on German Language Placement Exam.

*Could be taken the same time as RUSS 201.*

Systematic composition and conversational exercises.

[IS] **204. Composition and Conversation II** (3 cr) Prereq: GERM 202 or equivalent score on German Language Placement Exam. *Could be taken the same time as RUSS 202.*

Continuation of GERM 203.

**210. Accelerated Second-Year German** (6 cr) Prereq: GERM 102 or equivalent score on German Language Placement Exam.

Covers the same material as GERM 201-202 and counts as 201-202 in satisfying the liberal education requirements of the College of Arts and Sciences.

[ES] **282. German Literature in Translation** (1-24 cr) Prereq: 6 hrs courses in literature. *Permission for a student to take these courses more than once may be obtained from the instructor if the area of concentration has changed.*

Masterpieces of German literature in translation. Selected texts to be announced in the schedule and the course description booklet.

**298. Special Topics** (1-12 max cr) Prereq: Permission. *Special topic to be covered in any given semester and credit to be awarded are determined by the instructor.*

Consideration of topics in the area of language, literature and civilization.

[ES][IS] **301. Representative Authors I** (3 cr) Prereq: GERM 202 or equivalent, plus 203 or 204 or 321 or 322 or permission.

Reading of representative authors of the twentieth century.

[ES][IS] **302. Representative Authors II** (3 cr) Prereq: GERM 202 or equivalent, plus 203 or 204 or 321 or 322 or permission. Reading of representative authors of the eighteenth and nineteenth centuries.

(ACE 2) **303. Advanced Composition, Grammar, and Conversation I** (3 cr) Prereq: GERM 202 or equivalent, plus 204 or permission.

Extensive discussion of advanced grammar; exercises in advanced composition and oral expression.

(ACE 2) **304. Advanced Composition, Grammar, and Conversation II** (3 cr) Prereq: GERM 303 or permission.

Continuation of GERM 303.

**307. German for Business and Commerce I** (3 cr) Prereq:

GERM 204 or permission.

Initiates a special sequence of language and culture study designed for students interested in international business. Introduction to cultural aspects of problems related to the conduct of international

business. Focus on specific business language problems, e.g., business correspondence, commercial vocabulary, etc.

**308. German for Business and Commerce II** (3 cr) Prereq: GERM 307 or permission. Continuation of GERM 307.

**319. Phonetics in German** (3 cr) Prereq: GERM 202 or equivalent, GERM 203 or 204, or permission. Intensive study of standard German with the aid of tape recordings. Emphasis on articulation and phonetic transcription.

[ES][IS] **321. German Civilization I** (3 cr) Prereq: GERM 202 or equivalent. Systematic, chronological presentation of German civilization from the beginning to the present.

[ES][IS] **322. German Civilization II** (3 cr) Prereq: GERM 202 or equivalent. Systematic, chronological presentation of German civilization from the beginning to the present.

[IS] **392. Topics in German Studies** (3 cr) Prereq: GERM 204 or equivalent, or permission. Study of specific period or problem in German Studies: Interdisciplinary focus. Topic varies.

**398. Special Topics in German** (1-24 cr) Prereq: GERM 301 and 302 or permission. *Specific topic to be covered in any given semester and credit to be awarded to be determined by the instructor at that time.*

Language, literature, and civilization.

**399. Independent Study in German** (1-24 cr) Prereq: Permission.

**399H. Honors Course** (1-4 cr) Prereq: Open to candidates for degrees with distinction, with high distinction, and with highest distinction in the College of Arts and Sciences and to seniors and especially qualified juniors, with consent of the instructor.

**403/803. Advanced Syntax and Stylistics in German I** (3 cr) Prereq: GERM 303 and 304, or equivalent. *Recommended for all German majors.* Advanced syntax and style in their application to composition.

**404/804. Advanced Syntax and Stylistics in German II** (3 cr) Prereq: GERM 303 and 304, or equivalent. *Recommended for all German majors.* Advanced syntax and style in their application to composition.

**405/805. Linguistics in German** (3 cr) Prereq: GERM 303, 304 or equivalent. Phonetics, phonemics, morphology, and transformational grammar as applied to standard German.

**407/807. History of the German Language** (3 cr) Prereq: GERM 302 or permission.

[IS] **442/842. Survey of Medieval German Literature in Translation** (MDOL 442/842) (3 cr each) Prereq: Permission or GERM 302 for German majors. *German majors expected to read the works in German translation and to write their papers in German. Non-German majors read the works in English translation.* Development of German vernacular literature during the Middle Ages. Include works that represent the philosophical/religious literature, the heroic epic, and the romance.

**443/843. Middle High German Language** (3 cr) Prereq: GERM 302 or permission. Grammar to attain reading knowledge of Middle High German/translation of excerpts from a variety of Middle High German texts.

[IS] **444/844. Middle High German Literature** (3 cr) Prereq: GERM 443 or 843 or reading knowledge of Middle High German. Reading of masterworks of Middle High German literature in the original language.

[IS] **445/845. 16th and 17th Century German Literature** (2-3 cr) Prereq: GERM 302 or equivalent. Humanism, Reformation, and Baroque.

[IS] **447/847. 18th Century Literature** (3 cr) Prereq: GERM 302 or equivalent. Representative authors of the Enlightenment, Empfindsamkeit, and Storm and Stress.

[IS] **448/848. Romanticism** (3 cr) Prereq: GERM 302 or equivalent. Representative authors of the Romantic movement.

[IS] **449/849. Survey of 19th Century German Literature I, 1820-1848** (3 cr) Prereq: GERM 301 and 302 or permission. A survey of the major literary currents, authors, works, influences in German-speaking countries in the first half of the nineteenth century, excluding Romanticism, which is treated in GERM 448/848. The main concern of the course will be a careful examination of many aspects of "Biedermeier" and "Das Junge Deutschland," the two major movements of the time.

[IS] **450/850. Survey of 19th Century German Literature II, 1848-1900** (3 cr) Prereq: GERM 301 or 302 and permission. A survey of the major literary currents, authors, works, influences in German-speaking countries in the second half of the nineteenth century. The main concern of the course will be a careful examination of Poetic Realism and Naturalism, the two major movements in this half of the century.

[IS] **451/851. From Naturalism to Expressionism** (3 cr) Prereq: GERM 302 or equivalent. Critical survey of the major literary currents from the turn of the century to the end of World War I.

[IS] **452/852. From the Weimar Republic into Exile** (3 cr) Prereq: GERM 302 or equivalent. Critical survey of German literature from 1918 to 1945.

[IS] **453/853. History of German Poetry** (2-3 cr) Prereq: GERM 302 or equivalent. Critical survey of the development of epic and lyric poetry from the beginning to the present time.

**454/854. German Literature and Philosophy** (2-3 cr) Prereq: GERM 302 or equivalent. Relationship between literature and contemporary thought from the eighteenth century to the present.

[IS] **455/855. Postwar German Literature: The Literature of West Germany, Austria, and Switzerland** (3 cr) Prereq: GERM 302 or equivalent. Critical survey of major literary currents in the West since 1945.

[IS] **459/859. Works of Goethe and Schiller** (3 cr) Prereq: GERM 302 or equivalent. Representative works.

[IS] **460/860. Goethe's Faust** (3 cr) Prereq: GERM 302 or equivalent. Critical study. Lectures, assigned readings, and reports.

**498/898. Special Topics in German** (1-24 cr) Prereq: Permission. *Specific topic to be covered in any given semester and credit to be awarded to be determined by the instructor at that time.* Consideration of topics in the area of language, literature, and civilization.

**899. Masters Thesis** (6-10 cr)

Refer to the Graduate Bulletin for 900-level courses.

## Japanese (JAPN)

### 101. Beginning Japanese I (5 cr)

Fundamentals of the language. Emphasis on speaking and listening. Japanese phonetic symbols (Hiragana and Katakana).

### 102. Beginning Japanese II (5 cr) Prereq: JAPN 101 or equivalent.

Continuation of JAPN 101. Reading of texts dealing primarily with Japan and Japanese life. Learning of frequently used Kanji.

### 201. Second-Year Japanese I (3 cr) Prereq: JAPN 102 or equivalent.

Continuation of JAPN 102. Reading of moderately difficult Japanese texts. Conversational and writing exercises based on the texts.

### 202. Second-Year Japanese II (3 cr) Prereq: JAPN 201 or equivalent.

Continuation of JAPN 201. Introduction of modern written Japanese. Various speech levels and styles.

### 203. Intermediate Grammar and Reading I (3 cr) Prereq: JAPN 102 or equivalent. Parallel: JAPN 201.

Japanese grammar specifically required for JAPN 201. Emphasis

on developing reading competence and introduction to elementary-business Japanese.

**204. Intermediate Grammar and Reading II** (3 cr) Prereq: JAPN 203 or equivalent. Parallel: JAPN 202. Continuation of JAPN 203.

**301. Advanced Conversation and Composition I** (3 cr) Prereq: JAPN 202 or equivalent. Introduction to different speech levels and styles in realistic communicative situations enhancing conversational and writing competencies.

**302. Advanced Conversation and Composition II** (3 cr) Prereq: JAPN 301 or equivalent. Continuation of JAPN 301.

**303. Advanced Grammar and Reading I** (3 cr) Prereq: JAPN 204 or equivalent. Reading of newspapers and other authentic materials.

**304. Advanced Grammar and Reading II** (3 cr) Prereq: JAPN 303 or equivalent. Continuation of JAPN 303.

**307. Business Japanese I** (3 cr) Prereq: JAPN 202 or equivalent. *Intended for students with an intermediate level of Japanese language who are planning to equip themselves with language skills appropriate for the Japanese business world.*

Spoken language skills appropriate for Japanese office and business contexts including usage of various speech levels and styles.

**308. Business Japanese II** (3 cr) Prereq: JAPN 307 or equivalent. *Intended for students with an intermediate level of Japanese language who are planning to equip themselves with language skills appropriate for the Japanese business world.* Continuation of JAPN 307.

## Russian (RUSS)

### 101. Beginning Russian I (5 cr)

Main emphasis on the development of comprehension of written and spoken Russian; reading of simple texts; oral and aural drill supplemented by practice in language laboratory.

### 102. Beginning Russian II (5 cr) Prereq: RUSS 101.

Continuation of RUSS 101. Grammar, word structure, idioms.

### 110. Accelerated Beginning Russian (10 cr)

Covers the same material as RUSS 101 and 102, and counts as 101/102 in satisfying the liberal education requirements of the College of Arts and Sciences.

### 201. Second-Year Russian I (3 cr) Prereq: RUSS 102 or equivalent.

Continuation of grammar, word structure, sentence formation, idioms. Reading of moderately difficult prose and conversational practice based on the texts.

### 202. Second-Year Russian II (3 cr) Prereq: RUSS 201 or equivalent.

Continuation of RUSS 201. Class discussion and reports.

### 203. Composition and Conversation I (3 cr) Prereq: RUSS 202. RUSS 203 can be taken at the same time as RUSS 201.

The class is structured to give students practice in listening and speaking. Enhances students' communication skills.

### 204. Composition and Conversation II (3 cr) Prereq: RUSS 203. RUSS 204 can be taken at the same time as RUSS 202.

Continuation of RUSS 203.

### 210. Accelerated Second Year Russian (6 cr)

Same material as RUSS 201 and 202, and counts as 201/202 in satisfying the liberal education requirements of the College of Arts and Sciences.

### (ACE 5) [ES] 301. Representative Authors I (3 cr) Prereq: RUSS 202 or equivalent.

Reading of masterpieces by writers of the nineteenth century. Lectures providing background material, class discussion of texts, oral or written reports.

### (ACE 5) [ES] 302. Representative Authors II (3 cr) Prereq: RUSS 301 or equivalent.

Continuation of RUSS 301 to the present.

**303. Advanced Conversation and Composition: Russian Language through the Russian Press** (3 cr) Prereq: RUSS 202 or equivalent; RUSS 204 or equivalent. Advanced conversation and the study of advanced grammar by listening to, reading, and analyzing contemporary Russian printed and audio-visual media.

**304. Advanced Composition, Grammar, and Conversation** (3 cr) Prereq: RUSS 303 or equivalent. Continuation of RUSS 303.

**398. Special Topics in Russian** (1-24 cr) Prereq: RUSS 301 and 302 or permission. *Specific topic to be covered in any given semester and credit to be awarded to be determined by the instructor at that time.*

Language, literature, and civilization.

**399. Independent Study in Russian** (1-24 cr) Prereq: Permission.

**399H. Honors Course** (1-4 cr) Prereq: Permission.

**403/803. Russian Grammar and Stylistics** (3 cr) Prereq: RUSS 302 or equivalent.

Detailed analysis of Russian morphology and syntax to achieve greater sophistication in self-expression.

**408. Business and Political Russian** (3 cr) Prereq: RUSS 302 or equivalent. *Elective for Russian majors and recommended for students of international business and affairs, journalism and history.* Focus on language as used in business, politics and journalism.

**[IS] 441/841. Advanced Literary Analysis** (3 cr) Prereq: RUSS 302 or equivalent. *All the readings, discussions, and assignments are in Russian.*

In-depth study of a work, period, or genre with emphasis on textual analysis.

**[IS] 442/842. Russian Poetry** (3 cr) Prereq: RUSS 301 and 302 or equivalent.

Russian poetry of the nineteenth and twentieth centuries. Teaches poetry appreciation and acquaints them with the culture, history and philosophy of the country through poetry.

**454/854. Russian Intellectual Tradition** (MODL 454/854) (3 cr) Prereq: Junior standing.

For course description, see MODL 454/854.

**(ACE 5) [IS] 482. Russian Literature in Translation I** (3 cr) Prereq: Junior standing or permission.

Survey of nineteenth century Russian literature, to include works by Lermontov, Pushkin, Gogol, Turgenev, Tolstoy, Dostoevsky and Chekhov. Prepares students to appreciate literature and acquaint them with Russian literature, culture and philosophy.

**[ES][IS] 483. Russian Literature in Translation II** (3 cr) Prereq: Junior standing or permission.

Survey of twentieth century Russian literature, to include works by Babel, Blok, Bely, Zamyatin, Bulgakov, Zoshchenko, Gorky, Sholokhov, Pasternak, Solzhenitsyn, and Rasputin. Prepares students to appreciate literature and acquaint them with Russian literature, culture and philosophy.

**498/898. Special Topics in Russian** (1-24 cr) Prereq: RUSS 301 and 302 or permission. *Specific topic to be covered in any given semester and credit to be awarded to be determined by the instructor at that time.*

Language, literature, and civilization.

## Spanish (SPAN)

**101. Beginning Spanish I** (5 cr)

Emphasis on development of comprehension of written and spoken Spanish; reading of simple texts dealing primarily with the Spanish-speaking world and with cultural and historical background of Spanish civilization; oral and aural drill supplemented by practice in pronunciation laboratory.

**102. Beginning Spanish II** (5 cr) Prereq: SPAN 101 or equivalent score on Spanish Language Placement Exam.

Continuation of SPAN 101.

**110. Accelerated Beginning Spanish** (10 cr) Prereq: 2 semesters high school Spanish and departmental permission.

Covers the same materials as SPAN 101-102 and counts as 101-102 in satisfying the liberal education requirements.

**181. Beginning Grammar and Readings** (3 cr) Prereq: Open to juniors, seniors, and graduates beginning their Spanish. *Does not apply to the liberal education requirements.*

Rapid course in the essentials of grammar followed by reading of varied types of literary and technical publications.

**201. Second-Year Spanish I** (3 cr) Prereq: SPAN 102 or equivalent score on Spanish Language Placement Exam. *Spanish 201x does not count toward Essential Studies requirements except by permission of the departmental chair.*

Intensive and extensive reading of moderately difficult Spanish texts; thorough review of minimum essentials of Spanish grammar; conversational practice supplemented by drill in pronunciation laboratory.

**201H. Honors: Second-Year Spanish I** (3 cr) Prereq: Good standing in University Honors Program or by invitation. Honors course in second year Spanish.

**202. Second-Year Spanish II** (3 cr) Prereq: SPAN 201 or equivalent score on Spanish Language Placement Exam. *Spanish 202x does not count toward Essential Studies requirements except by permission of the departmental chair.*

Continuation of SPAN 201. Reading of more difficult texts.

**202H. Honors: Second-Year Spanish II** (3 cr) Prereq: Good standing in University Honors Program or by invitation. Honors course in second year Spanish.

**203. Intensive Conversation** (3 cr) Prereq: SPAN 202 or equivalent score on Spanish Language Placement Exam.

Focuses on the development of oral proficiency so that students may be able to express and discuss their ideas and experiences in clear, direct Spanish. Grammatical constructions and new vocabulary are presented and practiced mainly in conversation.

**204. Intensive Writing** (3 cr) Prereq: SPAN 202 or equivalent score on Spanish Language Placement Exam.

Focuses on the achievement of communicative proficiency so that students learn to express their own ideas and experiences in a coherent manner. Special emphasis on thematic content, organizational skills, and self-editing.

**210. Accelerated Second-Year Spanish** (6 cr) Prereq: SPAN 102 or equivalent score on Spanish Language Placement Exam and departmental permission.

Covers the same material as SPAN 201-202 and counts as 201-202 in satisfying the liberal education requirements.

**[ES] 264. Spanish-American Literature in Translation I** (1-24 cr) Prereq: 6 hrs courses in literature. *Permission for a student to take these courses more than once may be obtained from the instructor if the area of concentration has been changed.*

Masterpieces of Spanish-American literature in translation. Selected texts to be announced in the schedule and course description booklet.

**[ES] 265. Spanish-American Literature in Translation II** (1-24 cr) Prereq: 6 hrs courses in literature. *Permission for a student to take these courses more than once may be obtained from the instructor if the area of concentration has been changed.*

Masterpieces of Spanish-American literature in translation. Selected texts to be announced in the schedule and course description booklet.

**300. Advanced Writing and Reading for Comprehension** (6 cr) Prereq: SPAN 203 and 204; or equivalent.

A block course combining SPAN 303 and 304 in one semester.

**303. Advanced Reading for Comprehension** (3 cr) Prereq: SPAN 203 and 204, or equivalent.

Introduction to literary texts and to the practice of reading for comprehension and interpretation. Students write short summaries of texts selected from Spanish and Spanish-American literary works.

**304. Advanced Writing** (3 cr) Prereq: SPAN 203 and 204, or equivalent.

Develops writing skills by concentrating on techniques for writing term papers, such as organizing ideas, structuring arguments and conducting bibliographic searches.

**[ES][IS] 305. Literary Analysis in Spanish** (3 cr) Prereq: SPAN 303 and 304, or SPAN 300 or equivalent.

Readings of short stories, critical and creative essays, short plays and poems to facilitate the acquisition of critical skills in the identification of basic ideological and formalistic issues within the text being studied. Reading selections come from Spain

and Spanish America. Lectures, oral discussions, and written reports in Spanish.

**[ES][IS] 311. Representative Spanish-American Authors I** (LAMS 311) (3 cr) Lec 3. Prereq: SPAN 305 or equivalent. *Lectures, oral discussions, and written work in Spanish.* Masterpieces by great writers chosen from the *Modernista* period to the present time.

**[ES][IS] 312. Representative Spanish-American Authors II** (LAMS 312) (3 cr) Lec 3. Prereq: SPAN 305 or equivalent. *Lectures, oral discussions, and written work in Spanish.* Masterpieces by great writers from colonial times to the *Modernista* period.

**[ES][IS] 314. Representative Authors of Spain I** (3 cr) Prereq: SPAN 305 or equivalent.

Readings of masterpieces by great writers chosen from the Middle Ages to the eighteenth century. Lectures, oral discussions, and written reports in Spanish.

**[ES][IS] 315. Representative Authors of Spain II** (3 cr) Prereq: SPAN 305 or equivalent.

Readings of masterpieces by great writers chosen from the eighteenth century to the present. Lectures, oral discussions, and written reports in Spanish.

**317. Introduction to Linguistics** (3 cr) Prereq: SPAN 300. *Useful for majors.*

Introduction to linguistic analysis as pertinent to the description and explanation of Spanish grammatical structure. Both theoretical and practical.

**319. Spanish Phonetics** (3 cr) Prereq: SPAN 300 or equivalent.

Production of Spanish sounds, isolated and in groups; analysis of rhythm and intonation in conversation and reading; oral and aural practice in the laboratory.

**[ES][IS] 321. Spanish Civilization** (3 cr) Prereq: SPAN 300 or equivalent.

Spanish culture, Middle Ages to the present. Lectures, discussions, and papers in Spanish.

**[ES][IS] 331. Latin American Civilization** (LAMS 331) (3 cr) Lec 3. Prereq: SPAN 300 or equivalent. *Lectures, discussions, papers in Spanish.*

Latin American culture, pre-Columbian to the present.

**398. Special Topics in Spanish** (1-24 cr) Prereq: SPAN 305 or equivalent. *Specific topic to be covered in any given semester and credit to be awarded to be determined by the instructor at that time.* Language, literature, and civilization.

**399. Independent Study in Spanish** (1-24 cr) Prereq: Student must obtain permission prior to enrolling.

Special research project or reading program under the direction of a staff member in the department.

**399H. Honors: Special Problems** (1-6 cr) Prereq: Open to candidates for degrees with distinction, with high distinction, and with highest distinction in the College of Arts and Sciences and to seniors and especially qualified juniors with consent of instructor

**403/803. Spanish Stylistics** (3 cr) Prereq: SPAN 305 and 319 or equivalent. *For advanced students, particularly prospective teachers, who wish to improve their ability to write idiomatic Spanish.* Translations and composition in Spanish.

**405/805. Advanced Grammar** (3 cr) Prereq: SPAN 300 and 317 or 319 or equivalent.

Theoretical and practical aspects of Spanish grammar.

**(ACE 5) [IS] 421/821. Medieval Literature** (3 cr) Prereq: SPAN 305, and either SPAN 311 and 312, or SPAN 314 and 315; or graduate standing.

Spanish Medieval literature of the tenth to the fifteenth centuries. Reading and analysis of such authors as Berceo, Alfonso X, Juan Manuel, Juan Ruiz, Fernando Rojas, Jorge Manrique, and Juan de Mena.

**432/832. Spanish Speaking Proficiency** (3 cr) Prereq: SPAN 300 or permission.

Intensive advanced course in oral communication to gain proficiency in speaking Spanish through practice, creative construction of sentences, vocabulary building, and practical review of grammar and pronunciation.

[IS] 441/841. **Spanish Golden Age Poetry** (3 cr) Prereq: 6 hrs from SPAN 311, 312, 314, 315.

Representative works of the sixteenth and seventeenth centuries: Garcilaso de la Vega, Fray Luis de León, San Juan de la Cruz; Lope de Vega, Góngora, Quevedo.

[IS] 442/842. **Spanish Golden Age Prose** (3 cr) Prereq: 6 hrs from SPAN 311, 312, 314, 315.

Representative works of the sixteenth and seventeenth centuries, exclusive of Cervantes: *La Celestina*, *El Lazarillo de Tormes*, *El Buscón*; selections from Santa Teresa de Jesus, *La Diana*, Quevedo's *Sueños*, and Gracian's *El criti*cón.

(ACE 5) [IS] 445/845. **Spanish Golden Age Drama** (3 cr) Prereq: 6 hrs from SPAN 311, 312, 314, 315.

Reading and study of the classics of Lope de Vega, Tirso de Molina, Ruiz de Alarcón, Calderón and others. Lectures, class discussions, and reports.

[IS] 453/853. **19th Century Spanish Literature** (3 cr) Prereq: 6 hrs from SPAN 311, 312, 314, 315.

Reading and study of nineteenth century Spanish literature: drama, essay, novel, poetry, and short story. Such authors as Larra, Zorrilla, Duque de Rivas, Espronceda, Tamayo y Baus, Echegaray, Bécquer, Pérez Galdós, Clarín, and Valera.

455/855. **Human Rights in Latin American Poetry** (3 cr) Prereq: SPAN 304; and 6 hrs from SPAN 311, 312, 314 or 315.

Reading and analysis of Latin American poetry dealing with human rights issues, concentrating on poems produced from 1900 to the present. Topics selected from the Universal Declaration of Human Rights.

[IS] 456/856. **20th Century Spanish Poetry** (3 cr) Prereq: 6 hrs from SPAN 311, 312, 314, 315.

Reading and analysis of twentieth century Spanish poetry, with emphasis on A. Machado, Unamuno, Salinas, J. Guillén, García Lorca, M. Hernández.

457/857. **20th Century Spanish Narrative** (3 cr) Prereq: 6 hrs from SPAN 311, 312, 314, 315.

Reading and analysis of significant Spanish narrative written during the twentieth century.

[IS] 458/858. **20th Century Spanish Drama** (3 cr) Prereq: 6 hrs from SPAN 311, 312, 314, 315.

Reading and analysis of dramas written by such playwrights as Benavente, Valle-Inclán, García, Lorca, Buero Vallejo, Sastre, and Arrabal.

459/859. **Spanish-American Poetry** (LAMS 459) (3 cr) Lec 3.

Prereq: 6 hrs from SPAN/LAMS 311, 312, SPAN 314, 315.

Spanish-American poetry.

460/860. **Spanish-American Novel** (LAMS 460) (3 cr) Lec 3.

Prereq: 6 hrs from SPAN/LAMS 311, 312, SPAN 314, 315.

Spanish-American novels.

[IS] 462/862. **Spanish-American Short Story** (LAMS 462) (3 cr)

Lec 3. Prereq: 6 hrs from SPAN/LAMS 311, 312, SPAN 314, 315.

Masterpieces of the Spanish-American short story from its origins. Works of the twentieth century by authors such as Horacio Quiroga, Jorge Luis Borges, María Luisa Bombal, Juan Rulfo, Julio Cortázar, Rosario Castellanos, and Luisa Valenzuela.

463/863. **20th Century Spanish and Spanish-American Essay** (3 cr) Prereq: 6 hrs from SPAN 311, 312, 314, 315.

Reading and analysis of twentieth century Spanish and Spanish-American essays, with emphasis on Unamuno, Maeztu, Ortega y Gasset, Marañón, Marias, Picon Salas, Arciniegas, Mañach, Reyes, Paz.

470/870. **Women Writers of Spanish America** (LAMS 470) (3 cr) Lec 3. Prereq: 6 hrs from SPAN/LAMS 311, 312, SPAN 314, 315.

Masterpieces by women writers of Spanish America such as Sor Juana Inés de la Cruz, Gertrudis Gómez de Avellaneda, Gabriela Mistral, María Luisa Bombal, and Victoria Ocampo.

473/873. **Cervantes** (3 cr) Prereq: 6 hrs from SPAN 311, 312, 314, 315.

*Don Quijote*, the *Entremeses*, and selected *Novelas ejemplares*.

496/896. **Independent Study in Spanish** (1-24 cr) Prereq: Permission.

[IS] 497. **Seminar in Spanish** (3 cr, max 24) Prereq: 6 hrs from SPAN 311, 312, 314, or 315; and senior standing or permission.

*Topic covered in any term determined by the instructor.*

Topics dealing with specific aspects of Hispanic literature and culture.

498/898. **Special Topics in Spanish** (1-24 cr) Prereq: Permission. *Specific topic to be covered in any given semester and credit to be awarded to be determined by the instructor at that time.*

Language, literature, and civilization.

899. **Masters Thesis** (6-10 cr)

Refer to the Graduate Bulletin for 900-level courses.

## Philosophy

**Chair:** Joseph Mendola, 1009 Oldfather Hall

**Professors:** Casullo, Henderson, Mendola, Potter,

Sayward, Sobel, van Roojen

**Associate Professors:** Becker, Gibbons, Ide, McKittrick

**Assistant Professors:** Dowell, Hayaki

Philosophy is the critical study of the fundamental concepts and assumptions involved in all central areas of human experience, including religion, morality, science, and art. The department offers an introduction to philosophy course designed for the general student, as well as introductory courses in logic and current issues.

The basic philosophy curriculum includes courses in the *history of philosophy* covering the period which begins with the development of rational inquiry by the philosophers of ancient Greece and which concludes with the construction of the modern philosophical systems of the Enlightenment as well as courses in each of the major fields of philosophical study: *ethics*, which is concerned with the basis of morality; *metaphysics*, which explores different views about what fundamentally exists; *epistemology*, which examines the nature and limits of human knowledge; and *logic*, which studies general methods of reasoned argument and analysis.

A number of courses reflect the role of philosophy in investigating the fundamental concepts and assumptions of other disciplines, including courses in medical ethics, the philosophy of law, the philosophy of science, and the philosophy of mathematics.

Other courses focus on the role of philosophy in the critical analysis of basic evaluative conceptions and assumptions. Courses in political philosophy critically examine the evaluative concepts and assumptions involved in our beliefs about government, individual liberty, and social and economic justice. Courses in the philosophy of religion do the same for beliefs about the nature and existence of God and about the relations between faith and knowledge.

The department also offers courses in *aesthetics*, the philosophical study of art, music, and literature understood as fundamental forms of human culture and significant expressions of the human spirit.

The interdisciplinary character of philosophy, together with its focus on evaluative issues and its unique emphasis on general methods of reasoned argument and analysis, leads to an unusually broad and intellectually sound major for students preparing themselves for such professions as law, medicine, social work, government service, and the ministry. The philosophy major is indispensable for those who wish to prepare for a career as a philosopher within a college or university setting.

Students interested in majoring in philosophy or in selecting philosophy courses specially relevant to their studies are invited to visit with the chief adviser for the department or the department chair.

## Requirements for the Major in Philosophy

All prospective majors must consult and register with the departmental chief adviser.

1. A minimum of 30 hours of philosophy, with at least 24 hours in courses numbered 200 or above, and at least 12 hours in courses numbered 300 or above;
2. PHIL 400;
3. At least one of the following courses:
  - PHIL 110. Intro to Logic & Critical Thinking
  - PHIL 211. Intro to Modern Logic; and
4. At least three of the following courses:
  - PHIL 231. History of Philosophy (Ancient)
  - PHIL 232. History of Philosophy (Modern)
  - PHIL 301. Theory of Knowledge
  - PHIL 302. Intro to Metaphysics
  - PHIL 320. Ethical Theory

Independent study courses (PHIL 299 and 399) must be antecedently approved by a Department of Philosophy undergraduate adviser if they are to count toward satisfying the major requirements. No minor is required.

**Program Assessment.** In order to assist the department in evaluating the effectiveness of its programs, majors will be required to complete an annual survey in the spring semester.

Results of participation in this assessment activity will in no way affect a student's GPA or graduation.

## Requirements for the Minor in Philosophy

1. A minimum of 15 hours in philosophy, with at least 12 hours in courses numbered 200 or above, and at least 6 hours in courses numbered 300 or above;
2. At least two of the following courses:
  - PHIL 211. Intro to Modern Logic
  - PHIL 231. History of Philosophy (Ancient)
  - PHIL 232. History of Philosophy (Modern)
  - PHIL 301. Theory of Knowledge
  - PHIL 302. Intro to Metaphysics
  - PHIL 320. Ethical Theory

## Recommendations for Prelaw and Premed Students

The following courses are recommended for the minor in philosophy for students preparing for admission to law school or medical school.

### Prelaw

1. PHIL 211. Intro to Modern Logic;
2. At least one of the following courses:
  - PHIL 221. Political Philosophy
  - PHIL 230. Philosophy of Law;
  - PHIL 325. Advanced Social Political Philosophy
3. At least one of the following courses:
  - PHIL 301. Theory of Knowledge
  - PHIL 302. Intro to Metaphysics
  - PHIL 320. Ethical Theory

### Premed

1. PHIL 211. Intro to Modern Logic;
2. At least one of the following courses:
  - PHIL 213. Medical Ethics
  - PHIL 317. Intro to Philosophy of Science

3. At least one of the following courses:

- PHIL 301. Theory of Knowledge
- PHIL 302. Intro to Metaphysics
- PHIL 320. Ethical Theory

**Graduate Work.** The advanced degrees of master of arts and doctor of philosophy are offered. For details of these programs, see the *Graduate Studies Bulletin*.

**Prerequisites.** There are no prerequisites for courses below the 300 level. The prerequisites for courses at the 300 level are 3 hours or permission, unless otherwise stated. The prerequisites for courses at the 400 level are 9 hours of philosophy or permission, unless otherwise stated.

## Courses of Instruction (PHIL)

(ACE 5, 8) [ES][IS] 101. **Introduction to Philosophy** (3 cr) Historical-cultural introduction to philosophy. Considers a broad range of philosophical problems in relation to the major historical and cultural conditions which have influenced their formulations and proposed solutions. Topics: the principles of rational inquiry; the nature of knowledge; the metaphysics of mind, world, and God; and the sources and authority of morality.

(ACE 8, 9) [ES][IS] 106. **Philosophy and Current Issues** (3 cr) Critical survey of current issues and the role of philosophy in attempts to resolve them. Recent topics: sexual morality, pornography and the law, capital punishment, sexism and racism, extraordinary treatment for the terminally ill, abortion, church and state, and nuclear war and disarmament.

(ACE 3) [ES][IS] 110. **Introduction to Logic and Critical Thinking** (3 cr) Introduction to the principles of correct reasoning and their application. Emphasis on improving skills of thinking and reading critically, analyzing and evaluating arguments objectively, and constructing sound arguments based on relevant evidence.

[ES][IS] 116. **Philosophy and Religious Belief** (3 cr) Introduction to philosophical issues about the nature and justification of religious belief. Issues include the conception of God in Judaism and Christianity; the role of faith, reason, and religious experience in religious belief; the traditional arguments for the existence of God; the problem of evil; the idea of immortality; the relations between religion and science and religion and morality.

[ES][IS] 189H. **University Honors Seminar** (3 cr) Prereq: Good standing in the University Honors Program or by invitation. *University Honors Seminar 189H is required of all students in the University Honors Program.* Topic varies.

(ACE 3) [ES][IS] 211. **Introduction to Modern Logic** (3 cr) Lec 3. Introduction to symbolic logic. The semantics and syntax of sentential and predicate logic. Translating into and from formal languages, determining the validity or invalidity of arguments, and constructing proofs within formal systems.

[ES][IS] 213. **Medical Ethics** (3 cr) Philosophical study of moral problems in modern medicine, exploring such issues as the allocation of scarce medical resources, patients rights, research on human subjects, abortion, the care of seriously impaired newborns, and socialized medicine and the right to health care.

[ES][IS] 216. **Introduction to Psychology and Philosophy** (3 cr) Exploration of a number of topics to which both psychological research and philosophical reflection are relevant. Include two kinds of cases: where psychological findings bear on the resolution of some traditional philosophical issues and where philosophical analysis and criticism can be helpful in understanding or assessing a psychological theory or finding.

[ES][IS] 218. **Philosophy of Feminism** (WMNS 218) (3 cr) Lec. Fundamental assumptions and philosophical foundations of varieties of feminist thought. Nature of gender, gender identity, sex differences, and the role of science in defining sex and gender.

### [ES][IS] 220. Elements of Ethics

(3 cr) Wide range of basic issues in ethical theory, typically including: the nature of justice; the objectivity of moral values; the source of moral obligation; and the conditions of the good life. Each issue approached through historically important texts such as Aristotle's *Nicomachean Ethics*, Kant's *Groundwork*, and Mill's *Utilitarianism*.

### [ES][IS] 221. Political Philosophy

(3 cr) Basic concepts and problems of political theory. Freedom, equality, democracy, justice, and the relation of the individual to the state.

[ES][IS] 221H. **Honors: Political Philosophy** (3 cr) Prereq: Good standing in the University Honors Program or by invitation. Basic concepts and problems of political theory. Freedom, equality, democracy, justice, and the relation of the individual to the state.

### [ES][IS] 223. Introduction to the Philosophy of History

(3 cr) Nature and grounds of historical knowledge; objectivity vs. subjectivity in the writing of history; historical explanation; and patterns in human history. Primary sources include Hegel, Marx, and Toynbee.

### (ACE 8, 9) 225. Environmental Ethics

(3 cr) Lec 3. Ethical dimensions in human relations to the environment. What is the nature of moral value generally, and what are the range of things that are morally valuable? Are there things that are fundamentally morally valuable beyond humans or human happiness (i.e., sentient creatures, ecosystems, and species)? What is the right thing to do given various answers to such value questions?

### [ES][IS] 230. Philosophy of Law

(3 cr) Philosophical problems of the law and of legal systems. Includes legal reasoning, judicial interpretation, legal language and definition, legal obligation, law and morality, and legal paternalism. Concepts of law, constitutionality, legislative intent, fair trial, criminal responsibility, punishment, fault, and strict liability. Applications to social issues of individual freedom, human rights, privacy, discrimination, and justice.

### (ACE 5) [ES][IS] 231. History of Philosophy (Ancient)

(3 cr) Beginnings of Greek philosophy: the pre-Socratics and the systems of Plato and Aristotle with emphasis on historical connections and the critical interpretation of texts.

### [ES][IS] 232. History of Philosophy (Modern)

(3 cr) Survey of the more important systems in Western philosophy in the seventeenth and eighteenth centuries with emphasis on historical connections and the critical interpretation of texts.

### [ES] 265. Philosophy of Religion

(3 cr) Introduction to the philosophical understanding of religion. Includes a number of views on the nature of God, on the possibility of knowledge of God's existence through either argumentation or religious experience, and on the relation between religion and morality.

### 299. Independent Study in Philosophy

(1-24 cr) Prereq: Permission. (ACE 5) [ES][IS] 301. **Theory of Knowledge** (3 cr) Prereq: 3 hrs PHIL or permission.

Introduction to some major problems of epistemology, with emphasis on the understanding and evaluation of the problems, rather than on learning what various philosophers have said about them. Treats such questions as the nature and scope of knowledge; the sources of knowledge in perception, memory, and reasoning; the nature of evidence and its relation to knowledge; the possibility of knowledge of the mental lives of others; the nature and justification of inductive reasoning; and the concept of causality and its relation to explanation.

### (ACE 5) [ES][IS] 302. Introduction to Metaphysics

(3 cr) Prereq: 3 hrs PHIL or permission. Introduction to some main problems, and some central concepts, of metaphysics. Focuses on the nature of being and existence, and on various questions concerning the relations between different kinds of entities: minds and bodies, causes and effects, universals and particulars, etc.

### 305. Introduction in Philosophy of Language

(3 cr) Lec 3. Prereq: 3 hrs PHIL. Major themes and classic texts in philosophy of language. The notion of meaning, the relationships between meaning and reference, meaning and truth, and the meaning and use of expressions.

[ES][IS] 314. **Problems in the Philosophy of Mind** (3 cr) Prereq: 3 hrs PHIL or permission.

Major problems in the philosophy of mind: the relation between the mental and the physical; the role of mental concepts in explaining human actions; the possibility of life after death; the concept of a person; the structure of character and personality; and the analysis of various important mental concepts, such as thought, belief, desire, emotion, sensation, and pleasure.

[ES] 317. **Philosophy of Science** (3 cr) Prereq: 3 hrs PHIL or permission.

Critical analysis of the philosophical foundations of the sciences. Nature of theories, observation in science, the interpretation of theories, the scientific method, explanation, interfield relations, patterns of scientific development, and the role of philosophy in science studies in general.

[ES][IS] 320. **Ethical Theory** (3 cr) Prereq: 3 hrs PHIL or permission.

Morality, considering the major views in normative ethics as well as a broad range of questions in theoretical ethics centering on the nature of morality and its place in human life.

[ES][IS] 323. **Topics in Applied Ethics** (3 cr) Prereq: 3 hrs PHIL or permission.

Application of systematic moral theories to specific moral issues. Issues of social justice and environmental, journalistic and medical ethics.

[ES][IS] 325. **Advanced Social Political Philosophy** (3 cr) Prereq: 3 hrs PHIL or permission.

Various competing contemporary philosophical approaches to issues of social justice, with special attention to issues of individual rights, political liberty, and distributive justice.

[ES][IS] 327. **Aesthetics** (3 cr) Prereq: 3 hrs PHIL or permission.

Critical exposition of the main classical and contemporary theories of art: Expressionist, Formalist, and Representationalist. Theories considered in definition of art, of aesthetic judgment, of art criticism, and of aesthetic value. Examples drawn from painting, literature, music, and movies.

[ES][IS] 332. **Spinoza** (3 cr) Prereq: 3 hrs PHIL or permission.

Philosophy of Spinoza, focusing on his principal work, the *Ethics*. Various metaphysical and epistemological aspects of Spinoza's thought, including his ideas on the nature and existence of God, the relation between mind and body, and relations between language, truth and reason.

[ES][IS] 336. **Ethics: Ancient and Medieval** (3 cr) Prereq: 3 hrs philosophy or permission.

Ancient and medieval theories of morality. Connection between self-interest and morality, what morality is, and pleasure.

(ACE 5) [ES][IS] 337. **Knowledge: Ancient and Medieval** (3 cr) Prereq: 3 hrs PHIL or permission.

Ancient and medieval knowledge, focusing on perception, faith, and thought.

(ACE 5) [ES][IS] 338. **Metaphysics: Ancient and Medieval** (3 cr) Prereq: 3 hrs PHIL or permission.

Ancient and medieval metaphysical theories, focusing on persons, gods, and properties.

[ES] 340. **Contemporary Analytical Philosophy** (3 cr) Prereq: 3 hrs PHIL or permission.

Development of twentieth century philosophy in the English speaking world. Realism, skepticism, reference, and representation. Figures include Frege, Moore, Russell, Wittgenstein, Lewis, and Ryle. Developments in each of the major fields of philosophy, including ethics.

[ES][IS] 341. **Contemporary Continental Philosophy** (3 cr) Prereq: 3 hrs PHIL or permission.

Recent developments in continental philosophy, in particular of different forms of social criticism which it has generated. Includes discussion of Marxists, Foucault and other philosophers influenced by Nietzsche, Wittgenstein, the existentialists, and Derrida. The language of social science; the controversy between problems of the issue the ethics of and the relation.

[ES][IS] 342. **American Philosophy** (3 cr) Prereq: 3 hrs PHIL or permission.

Development of American Pragmatism from 1870's to the present. Essential writings of C. S. Peirce, William James, and John Dewey; other currents in American thought such as Critical Realism and Idealism; and contemporary philosophic views that continue the spirit of pragmatism.

[ES][IS] 345. **Modern European Jewish Philosophy** (JUDS 345) (3 cr) Lec 3. Prereq: 3 hrs PHIL.

Survey of Jewish philosophy from the eighteenth century to the present. Works of Moses Mendelssohn, Hermann Cohen, Martin Buber, Emanuel Levinas, and others in relation to broad European intellectual movements such as existentialism and phenomenology.

398. **Special Topics in Philosophy** (1-24 cr) Prereq: Permission.

399. **Independent Study in Philosophy** (1-24 cr) Prereq: Permission.

399H. **Honors Course** (1-4 cr) Prereq: Open to candidates for degrees with distinction, with high distinction, and with highest distinction in the College of Arts and Sciences.

(ACE 10) [IS] 400. **Undergraduate Seminar in Philosophy** (3 cr) Prereq: Philosophy major and permission of philosophy undergraduate advisor.

Central philosophical problems or the work of some significant philosopher. Reading of primary sources, the interpretation of philosophical texts, and the writing of research papers.

409/809. **Theory of Knowledge** (3 cr)

Intensive study of basic problems in the Theory of Knowledge: the nature of knowledge, the analysis of perception and memory, the justification of induction, the problem of how one knows other minds, and the analysis of *a priori* knowledge. Readings from recent work.

411/811. **Formal Logic** (3 cr) Lec 3. Prereq: PHIL 211 or equivalent. *PHIL 411 is a second course in symbolic logic.*

The main metalogical results of the twentieth century. Completeness, compactness and undecidability of first-order logic; the Löwenheim-Skolem Theorem; axiomatic set theory; the Gödel incompleteness theorems; and non-classical logics.

412/812. **Modal Logic** (3 cr) Prereq: 9 hrs philosophy including PHIL 211 or equivalent or permission.

Syntax and model theory of quantified modal logic with applications to e.g., deontic logic, epistemic logic, and the philosophy of logic.

414/814. **Philosophy of Mind** (3 cr)

Main problems in the philosophy of mind, including dualism and materialism, instrumentalism and eliminativism, wide and narrow content, qualia, and mental causation.

418/818. **Metaphysics** (3 cr)

Intensive study of main problems in metaphysics, especially universals and particulars, the relation of mind and matter, the categories of the real, criteria of identity, and existential propositions. Readings from recent philosophers.

420/820. **Philosophy of Social Science** (3 cr) Lec 3.

The epistemological character of the social sciences. Character and explanatory role of social scientific generalizations, various explanatory strategies for social matters, the continuity or discontinuity of the social sciences with the special sciences, the importance of interpretation, and the place of rationality.

423/823. **Advanced Ethics** (3 cr)

Critical study of leading theories in ethics, with close attention to major works, chiefly modern and contemporary. Includes naturalism, intuitionism, emotivism, utilitarianism, Neo-Kantian ethics, and various current positions.

425/825. **Political and Social Philosophy** (3 cr)

Critical study of main problems and leading theories in social and political philosophy. Origin and justification of political obligation, with emphasis on social contract theories; the nature and foundation of individual rights and the strength of these rights when they conflict with each other and with concern for the common good; the principles of social justice and the obligation to protect the welfare of others; and the concepts of personal autonomy, liberty, equality, and freedom. Readings from a combination of historical and recent work, and emphasis on relating the various issues to current problems in society.

450/850. **Ancient Philosophy** (3 cr)

Advanced survey of ancient philosophy from the pre-Socratics through Aristotle, concentrating on central epistemological and metaphysical issues.

460/860. **History of Modern Philosophy** (3 cr)

Advanced survey of early European philosophy from the late renaissance through the Enlightenment, concentrating on central epistemological and metaphysical issues.

471/871. **Kant** (3 cr)

Kant's philosophy and problems in the interpretation of his writings. Primary text is the *First Critique*.

496/896. **Philosophical Themes** (1-24 cr, max 24) Prereq: Senior standing or especially qualified junior. Library work and conferences.

## Seminars

The seminar unit is normally represented by 3 credit hours per semester. However, in exceptional cases a student may be given permission to register for more or less than 3 hours.

801. **Philosophical Analysis** (3 cr) Prereq: Permission from philosophy graduate adviser.

805. **Philosophy of Language** (3 cr)

817. **Philosophy of Science** (3 cr)

899. **Masters Thesis** (6-10 cr)

Refer to the Graduate Bulletin for 900-level courses.

## Physics and Astronomy

**Chair:** Daniel R. Claes, 116 Brace Physics Lab

**Vice Chair:** Stephen Ducharme, 256 Behlen Lab

**Professors:** Claes, Dowben, Ducharme, Fabrikant, Gay, Kirby, Liou, Schmidt, Sellmyer, Snow, Starace, Tsymbal, Umstädter

**Associate Professors:** Adenwalla, Batelaan, Gruverman

**Assistant Professors:** Belashchenko, Binek, Bloom, Dominguez, Enders, Kravchenko, Shadwick, Uiterwaal

**Research Associate Professors:** Bettis, Lee

**Lecturer:** Yenen

The Department of Physics offers programs leading to the bachelor of arts and bachelor of science degrees. Students preparing for either graduate study or a professional career in physics should pursue the bachelor of science degree (Professional Track described below). For students who have special interests, the Department offers additional tracks in astronomy, optics and lasers, materials physics, and computational physics. The interdisciplinary bachelor of science degree in the area of engineering physics is offered through the College of Engineering.

The courses required for the bachelor of arts degree in physics offer a broader program in science and the liberal arts suitable for a variety of preprofessional curricula and for interdisciplinary studies in areas including biophysics, chemical physics, and geophysics. Students in this degree program should select elective courses in consultation with their advisers.

Further details concerning the Department's undergraduate programs are given in the booklet, *Undergraduate Student Handbook*, which is available in the Department Office, 116 Brace Lab. Also, see the Department's Chief Undergraduate Adviser, Associate Professor Herman Batelaan, Behlen Laboratory B57.

**Pass/No Pass.** Students majoring in physics may not take any course from the list of core courses or from the list of track courses for Pass/No Pass credit. Students who are getting a minor in physics may not take any courses listed as requirements for the Plan A or Plan B minors for Pass/No Pass credit.

## Requirements for the Bachelor of Science, Major in Physics

The departmental requirements for the bachelor of science in physics consists of the Core Courses required of all students plus the courses from one of the Tracks listed below. The following chart summarizes the credit hour requirements. No minor is required.

Bachelor of Science	Core	Track	Total
I. Professional Track	52	+18	70 cr
II. Astronomy Track	52	+19	71 cr
III. Optics and Lasers Track	52	+18	70 cr
IV. Materials Physics Track	52	+18	70 cr
V. Computational Physics Track	52	+18	70 cr

### Core Courses for the BS Degree ..... 52

*The following required courses are listed in the recommended sequence.*

PHYS 201H Modern Topics in Physics & Astronomy...	1
MATH 106 Analytic Geometry and Calculus I.....	5
PHYS 211 General Physics I.....	4
PHYS 221 General Physics Laboratory I.....	1
MATH 107 Analytic Geometry and Calculus II.....	5
PHYS 212 General Physics II.....	4
PHYS 222 General Physics Laboratory II .....	1
CHEM 113 Fundamental Chemistry I.....	4
MATH 208 Analytic Geometry and Calculus III.....	4
PHYS 213 General Physics III .....	4
PHYS 223 General Physics Laboratory III.....	1
MATH 221 Differential Equations.....	3
PHYS 231 Electrical & Electronic Circuits.....	3
PHYS 311 Mechanics.....	3
PHYS 431 Thermal Physics .....	3
PHYS 451 Electromagnetic Theory.....	3
PHYS 461 Quantum Mechanics.....	3

### I. Professional Track ..... 18

*The Professional Track is designed for students intending to pursue graduate study or employment in physics or a related scientific or engineering discipline. The following required courses are listed in the recommended sequence.*

PHYS 441 Experimental Physics I.....	3
PHYS 442 Experimental Physics II .....	3
PHYS 452 Optics & Electromagnetic Waves.....	3
PHYS 462 Atoms, Nuclei & Elementary Particles.....	3
In addition, at least 6 hours must be taken from the following courses.....	6
PHYS 343 Physics of Lasers & Modern Optics ..3	
PHYS 361 Concepts of Modern Physics .....	3
PHYS 391 Undergraduate Research .....	3
PHYS 401 Computational Physics.....	3
PHYS 422 Intro to the Physics & Chemistry of Solids.....	3
PHYS 443 Experimental Physics III.....	3
PHYS 480 Intro to Lasers & Laser Applications..3	
MATH 314 Applied Linear Algebra (Matrix Theory) or MATH 324 Intro to Partial Differential Equations.....	3

### II. Astronomy Track ..... 19

*The Astronomy Track is designed for students intending to pursue graduate study or employment in astronomy or astrophysics. The following required courses are listed in the recommended sequence.*

ASTR 204 Intro to Astronomy & Astrophysics.....	3
ASTR 224 Astronomy & Astrophysics Lab.....	1
PHYS 452 Optics & Electromagnetic Waves.....	3
In addition, at least 9 hours must be taken from 400-level astronomy courses .....	9

In addition, at least 3 hours must be taken from the following courses .....

*Up to 3 hours of PHYS 391 Undergraduate Research may be counted towards these 3 hours by substitution, provided that the research project is approved by the Chief Adviser.*

PHYS 343 Physics of Lasers & Modern Optics ..3	
PHYS 361 Concepts of Modern Physics .....	3
PHYS 401 Computational Physics.....	3
PHYS 422 Intro to the Physics & Chemistry of Solids.....	3
PHYS 441 Experimental Physics I.....	3
PHYS 462 Atoms, Nuclei & Elementary Particles.....	3
PHYS 480 Intro to Lasers & Laser Applications..3	

### III. Optics and Lasers Track ..... 18

*The Optics and Lasers Track is designed for students intending to pursue graduate study or employment in optical or laser physics or in related engineering disciplines. The following required courses are listed in the recommended sequence.*

PHYS 343 Physics of Lasers & Modern Optics ..3	
PHYS 441 Experimental Physics I.....	3
PHYS 452 Optics & Electromagnetic Waves.....	3
PHYS 462 Atoms, Nuclei & Elementary Particles.....	3
In addition, at least 6 hours must be taken from the following courses .....	6

### IV. Materials Physics Track ..... 18

*The Materials Physics Track (for the Physics B.S.) is designed for students intending to pursue graduate study or employment in Materials Physics or in related disciplines. The following required courses are listed in the recommended sequence.*

CHEM 114 Fundamental Chemistry II .....	3
CHEM 116 Quantitative Chemistry Lab.....	2
METL 360 Elements of Materials Sciences w/Lab.....	4
METL 462 X-ray Diffraction or METL 471 Electron Microscopy .....	3
PHYS 422 Intro to the Physics & Chemistry of Solids.....	3
PHYS 442 I Intro to the Physics & Chemistry of Solids.....	3
In addition, at least 3 hours must be taken from the following courses .....	3

*Up to 3 hours of PHYS 391 Undergraduate Research may be counted toward these 3 hours by substitution, provided that the research project is approved by the Chief Adviser.*

CHEM 261 Organic Chemistry .....	3
CHEM 481 Physical Chemistry .....	4
ELEC 216 Electronics and Circuits II.....	3
PHYS 401 Computational Physics.....	3

### V. Computational Physics Track ..... 18

*The Computational Physics Track (for the Physics B.S.) is designed for students intending to pursue graduate study or employment in Computational Physics or in related disciplines. The following required courses are listed in the recommended sequence.*

CSCE 155 Computer Science I.....	4
CSCE 156 Computer Science II .....	4
CSCE 251 UNIX Programming or CSCE 252D FORTRAN Programming .....	1
PHYS 401 Computational Physics.....	3

In addition, at least 6 hours must be taken from the following courses .....

*Up to 3 hour of PHYS 391 Undergraduate Research may be counted toward these 6 hours by substitution, provided that the research project is approved by the Chief Adviser.*

CSCE 235 Intro to Discrete Structures.....	3
CSCE 310 Data Structures & Algorithms.....	3
CSCE 340 Numerical Analysis I .....	3
CSCE 456 Parallel Programming.....	3

## Requirements for the Bachelor of Arts, Major in Physics

The departmental requirements for the bachelor of arts in physics consists of the Core Courses plus the courses from the Standard Track listed below. The following chart summarizes the credit hour requirements. No minor is required.

Bachelor of Arts	Core	Track	Total
I. Standard Track	37	+25	61 cr

### Core Courses for the BA Degree ..... 37

*The following required courses are listed in the recommended sequence.*

PHYS 201H Modern Topics in Physics & Astronomy...	1
MATH 106 Analytic Geometry & Calculus I.....	5
PHYS 211 General Physics I (preferred) (4 cr) and PHYS 221 General Physics Lab I (preferred) (1 cr) or PHYS 141 Elementary General Physics I.....	5
MATH 107 Analytic Geometry & Calculus II.....	5
CHEM 113 Fundamental Chemistry I (preferred) or CHEM 111 Chemistry for Engineering & Technology or CHEM 109 General Chemistry I.....	4
PHYS 212 General Physics II (preferred) (4 cr) and PHYS 222 General Physics Laboratory II (preferred) (1 cr) or PHYS 142 Elementary General Physics II ... 5	5
MATH 208 Analytic Geometry & Calculus III .....	4
PHYS 213 General Physics III .....	4
PHYS 223 General Physics Lab III .....	1
MATH 221 Differential Equations.....	3

### I. Standard Track ..... 24

*The Standard Track is designed for students pursuing careers for which the knowledge and methodology of physics are essential. The following required courses are listed in the recommended sequence.*

PHYS 231 Electrical & Electronic Circuits.....	3
PHYS 311 Mechanics.....	3
PHYS 361 Concepts of Modern Physics .....	3
PHYS 441 Experimental Physics I .....	3
In addition, at least 6 hours must be taken from the following courses .....	6
PHYS 343 Physics of Lasers & Modern Optics ..3	
PHYS 391 Undergraduate Research .....	3
PHYS 451 Electromagnetic Theory.....	3
PHYS 461 Quantum Mechanics.....	3
PHYS 431 Thermal Physics .....	3
PHYS 480 Intro to Lasers & Laser Applications 3	

In addition, at least 6 hours must be taken at the 300- or 400-level in mathematics, statistics, engineering, or science (including physics) .....

## Requirements for the Minor in Physics

### Plan AI. (19 cr)

PHYS 201H
PHYS 211, 221, 212, 222 or PHYS 141, 142
PHYS 213
PHYS 223
Plus 3 additional hours chosen from physics courses listed as requirements for the major in physics.

**Plan AII. (22 cr)**

PHYS 201H  
 PHYS 211, 221, 212, 222 **or** PHYS 141, 142  
 PHYS 213  
 ASTR 204  
 ASTR 224  
 Plus one course from ASTR 403, 404, 405, 407.

**Plan BI. (15 cr)**

PHYS 201H  
 PHYS 211, 221, 212, 222 **or** PHYS 141, 142  
 PHYS 213

**Plan BII. (15 cr)**

PHYS 201H  
 PHYS 211, 221, 212, 222 **or** PHYS 141, 142  
 ASTR 204  
 ASTR 224

**Graduate Work.** The advanced degrees of master of science and doctor of philosophy are offered. For details of these programs, see the *Graduate Studies Bulletin*.

## Courses of Instruction

### Astronomy (ASTR)

(ACE 4) [ES] 103. **Descriptive Astronomy** (3 cr) Lec 3. *Elementary course for non-science majors.*

Approach is essentially nonmathematical. Survey of the nature and motions of the planets, the sun, the stars, and their lives, galaxies, and the structure of the universe. Black holes, pulsars, quasars, and other objects of special interest included.

(ACE 4) [ES] 103H. **Honors: Descriptive Astronomy** (3 cr) Lec 3. Prereq: Good standing in the University Honors Program or by invitation. *Broad look at astronomy for non-science majors.* Approach is essentially non-mathematical, but simple algebra is employed where appropriate. Sun and solar system, the stars, galaxies, and cosmology. Black holes, pulsars, quasars, and other objects of special interest included. Emphasis on both "what is out there" and "how we know it".

[ES] 113. **Selected Topics in Astronomy** (3 cr) Lec 3. Prereq: ASTR 103 or permission.

A nonmathematical continuation and extension of ASTR 103, designed for students who would like a more detailed look at specific areas in astronomy. Possible topics: astronomy and relativity; life in the universe; pulsars, quasars, and black holes; evolution of galaxies, origin of the universe.

(ACE 4) [ES] 204. **Introduction to Astronomy and Astrophysics** (3 cr) Lec 3. Prereq: PHYS 211 and MATH 107. *Introductory course designed for science majors.*

Survey of the sun, the solar system, stellar properties, stellar systems, interstellar matter, galaxies, and cosmology.

[ES] 224. **Astronomy and Astrophysics Laboratory** (1 cr) Lab 3. Prereq: ASTR 204 or parallel. *Optional lab to accompany ASTR 204.* Telescopic observations and laboratory experiments relating to observational astronomy. Obtaining digital astronomical images, the analysis of the resulting data and its astrophysical interpretation.

403/803. **Galactic and Extragalactic Astronomy** (3 cr) Lec 3. Prereq: ASTR 204 and PHYS 213, and permission.

Introduction to the techniques for determining constituents and dynamics of our galaxy, including interstellar matter and theories of spiral arm formation. Extragalactic topics include basic characteristics of galaxies, active galaxies, quasars, evolution, and the cosmological distance scale.

404/804. **Stellar Astrophysics** (3 cr) Lec 3. Prereq: ASTR 204; PHYS 213; and permission.

Stellar atmospheres, interiors, and evolution. Theoretical and observational aspects of stellar astronomy. The relation between observed parameters and theoretical parameters, star formation, stellar energy generation, and degenerate stars.

405/805. **Physics of the Solar System** (3 cr) Lec 3. Prereq: ASTR 204; MATH 107/107H; PHYS 142/142H or 212/212H. Celestial mechanics; tidal effects; planetary interiors; atmospheres and surfaces; comets; asteroids; and the origin of the solar system. Applying physics to the solution of solar system problems.

407/807. **Physics of the Interstellar Medium** (3 cr) Lec 3. Prereq: ASTR 204 and PHYS 213.

Gaseous nebulae, interstellar dust, interstellar clouds and star forming regions. Theoretical and observational aspects of the various components of the interstellar medium. Includes the physics of emission nebulae, the properties of the interstellar dust, interstellar molecules and the properties of clouds in which star formation occurs.

498/898. **Special Topics** (3 cr, max 9) Lec 3. Prereq: ASTR 204 and permission. *Special topics not covered in other 400-level ASTR courses.*

### Physics (PHYS)

(Exclusive of Astronomy)

(ACE 4) [ES] 115. **Descriptive Physics** (3 cr) Lec 3. *Recommended for all students wanting a nonmathematical look at basic discoveries of physics.*

Qualitative approach to physics for the non-science major that emphasizes concepts and how they are used to understand the everyday physical world. Newton's description of motion and forces, the atomic view of matter, kinds and transformations of energy, the nature of electricity and magnetism, sound and light waves, and subatomic particles. Some topics selected according to student interest.

(ACE 4) [ES] 141. **Elementary General Physics I** (5 cr) Lec 3, rct 1, lab 3. Prereq: MATH 102 or equivalent. *Credit toward the degree may be earned in only one of: PHYS 141, 141H, and 151. Lab fee required.*

Mechanics, heat, waves and sound.

(ACE 4) [ES] 141H. **Honors: Elementary General Physics I** (5 cr) Lec 4, lab 3. Prereq: Good standing in the University Honors program or by invitation; MATH 102 or equivalent. *Credit toward the degree may be earned in only one of: PHYS 141, 141H, and 151. Lab fee required.*

For course description, see PHYS 141.

(ACE 4) [ES] 142. **Elementary General Physics II** (5 cr) Lec 3, rct 1, lab 3. Prereq: PHYS 141 or 141H. *Lab fee required.* Continuation of PHYS 141. Electricity, magnetism, optics, relativity, atomic and nuclear physics.

(ACE 4) [ES] 142H. **Honors: Elementary General Physics II** (5 cr) Lec 4, lab 3. Prereq: Good standing in the University Honors program or by invitation; PHYS 141 or 141H. *Lab fee required.*

For course description, see PHYS 142.

(ACE 4) [ES] 151. **Elements of Physics** (4 cr) Lec 3, rct 1. Prereq: MATH 102 or equivalent high school preparation. *Credit toward the degree may be earned in only one of: PHYS 141, 141H, and 151.* Short course, without laboratory, for those who need one semester of elementary general physics. Emphasis on understanding our physical environment through application of principles of mechanics, heat, sound, electricity, and light.

[ES] 153. **Elements of Physics Laboratory** (1 cr) Lab. Prereq: PHYS 151 or parallel PHYS 151.

Laboratory experiments in mechanics, heat, and wave motion.

198. **Special Topics in Physics** (1-6 cr, max 6)

Topic varies.

201H. **Honors: Modern Topics in Physics and Astronomy** (1 cr) Seminar/workshop that introduces students to topics in modern physics research in basic and applied areas. Students given an understanding of how their studies relate to current progress in physics and astronomy and to prepare for careers in physics-related disciplines.

(ACE 4) [ES] 211. **General Physics I** (4 cr) Lec 3, rct 1. Prereq: One year high school physics or PHYS 141 or 141H or 151 or permission; MATH 106 or parallel. Calculus-based course intended for students in engineering and the physical sciences. Mechanics, fluids, wave motion, and heat.

(ACE 4) [ES][IS] 211H. **Honors: General Physics I** (4 cr) Lec 3, rct 1. Prereq: Good standing in the University Honors Program or by invitation; MATH 106 or 106H or equivalent or parallel. For course description, see PHYS 211.

(ACE 4) [ES] 212. **General Physics II** (4 cr) Lec 3, rct 1. Prereq: One year high school physics or PHYS 211 or 211H or permission; MATH 107 or parallel. Continuation of PHYS 211. Electricity, magnetism, and optics.

(ACE 4) [ES][IS] 212H. **Honors: General Physics II** (4 cr) Prereq: Good standing in the University Honors Program or by invitation; PHYS 211 or 211H; MATH 107 or equivalent or parallel. A *calculus-based course.* For course description, see PHYS 212.

[ES] 213. **General Physics III** (4 cr) Lec 3, rct 1. Prereq: PHYS 212; MATH 208 or parallel. Continuation of PHYS 212. Relativity, quantum mechanics, atoms, and nuclei.

[ES] 213H. **Honors: General Physics III** (4 cr) Lec 3, rct 1. Prereq: Good standing in the University Honors Program or by invitation; PHYS 212 or 212H; MATH 208 or 208H, or parallel. For course description, see PHYS 213.

[ES] 221. **General Physics Laboratory I** (1 cr) Lab 3. Prereq: PHYS 211 or parallel. *Optional lab to accompany PHYS 211.* Experiments in mechanics, heat and wave motion.

[ES] 222. **General Physics Laboratory II** (1 cr) Lab 3. Prereq: PHYS 212 or parallel. Laboratory experiments in electromagnetism and optics.

[ES] 223. **General Physics Laboratory III** (1 cr) Lab 3. Prereq: PHYS 213 or parallel. *Optional lab to accompany PHYS 213.* Experiments in atomic and nuclear physics.

[ES] 231. **Electrical and Electronic Circuits** (3 cr) Lec 2, lab 3. Prereq: PHYS 212 and 222. Diode, transistor, and operational amplifier circuits and analog applications; gates, flip-flops, and elementary digital electronics.

(ACE 4) [ES] 260. **Liberal Arts Physics: Matter and Motion** (3 cr) Lec. Prereq: Two years high school algebra. *PHYS 260 and 261 are independent and may be taken in any order.*

Basic concepts of physics in a historical context and in relationship to the intellectual development of humankind. Mechanics, heat gravitation, and structure of the universe.

(ACE 4) [ES] 261. **Liberal Arts Physics: Atoms and Fields** (3 cr) Lec. Prereq: Two years high school algebra. *PHYS 260 and 261 are independent and may be taken in any order.*

Basic concepts of physics in a historical context and in relationship to the intellectual development of humankind. Atomic structure of matter, states of matter, waves, and light. Practical consequences of the properties of matter and physical phenomena.

[ES][IS] 262. **Physical Sciences by Inquiry** (1 cr) Lab 3. Prereq: PHYS 260 or 261; or parallel. *Intended for students planning to be elementary or middle-level teachers.* Selected physical science concepts using inquiry methods.

298. **Special Topics in Physics** (1-24 cr) Prereq: Permission.

311. **Mechanics** (3 cr) Lec 3. Prereq: PHYS 212 or parallel; MATH 221 or parallel; or permission. Review of vector operations and of the kinematics and dynamics of a particle. Dynamics of a system of particles, motion of rigid bodies, central force problems, collisions, Lagrangian techniques, oscillations, and coupled oscillators.

[IS] 343. **Physics of Lasers and Modern Optics** (3 cr) Lec 1, lab 3. Prereq: PHYS 142 or 212; and a lab course in science or engineering.

Physical principles and techniques of lasers and modern optics. Emphasis on practical experience with state-of-the-art techniques and applications.

[ES][IS] 361. **Concepts of Modern Physics** (3 cr) Prereq: PHYS 142 or 212 with a grade of C+ or better. Some of the concepts and ideas underlying modern areas of physics through readings from non-technical works by noted physicists and science writers. Includes quantum mechanics, relativity, cosmology, chaos, and examples of modern technology.

**391. Undergraduate Research** (1-4 cr per sem, max 8) Prereq: Permission. Research participation.

**399H. Honors Course** (1-4 cr) Prereq: Open to candidates for degrees with distinction, with high distinction, and with highest distinction in the College of Arts and Sciences.

**[IS] 401/801. Computational Physics** (3 cr) Lec 1, lab 3. Prereq: PHYS 311 or parallel. *Designed to accompany PHYS 311.* Re-formulation of physics problems for solution on a computer, control of errors in numerical work, and programming.

**422/822. Introduction to Physics and Chemistry of Solids** (ELEC 422/822) (3 cr) Prereq: PHYS 213 or CHEM 481/881, MATH 220/820 or 221/821, or permission.

Introduction to structural, thermal, electrical, and magnetic properties of solids, based on concepts of atomic structure, chemical bonding in molecules, and electron states in solids. Principles underlying molecular design of materials and solid-state devices.

**431/831. Thermal Physics** (3 cr) Lec 3. Prereq: PHYS 213. Thermal phenomena from the point of view of thermodynamics, kinetic theory, and statistical mechanics.

**[IS] 441/841. Experimental Physics I** (3 cr) Lec 1, lab 3. Prereq: PHYS 213, 223, and 231; or permission. *Lab fee required.* Methods and techniques of modern experimental physics.

**[IS] 442/842. Experimental Physics II** (3 cr) Lec 1, lab 3. Prereq: PHYS 441/841 or permission. *Lab fee required.* Continuation of PHYS 441/841.

**443/843. Experimental Physics III** (1-3 cr) Prereq: PHYS 442/842 or permission. *Lab fee required.* Continuation of PHYS 442/842.

**451/851. Electromagnetic Theory** (3 cr) Lec 3. Prereq: PHYS 213; MATH 220/820 or 221/821. Theory of electric and magnetic fields and their interaction with charges and currents, Maxwell's equations, electric and magnetic properties of matter.

**452/852. Optics and Electromagnetic Waves** (3 cr) Lec 3. Prereq: PHYS 451/851.

Production of electromagnetic waves, wave guides and cavities, properties of waves, plane waves, reflection and refraction, interference and coherence phenomena, polarization. Optical properties of matter.

**461/861. Quantum Mechanics** (3 cr) Lec 3. Prereq: PHYS 213 and 311; or permission. Basic concepts and formalism of quantum mechanics with applications to simple systems.

**462/862. Atoms, Nuclei, and Elementary Particles** (3 cr) Lec 3. Prereq: PHYS 461 or permission.

Basic concepts and experimental foundation for an understanding of the physics of atoms, nuclei, and elementary particles.

**480/880. Introduction to Lasers and Laser Applications** (ELEC 480/880) (3 cr) Prereq: PHYS 213. For course description, see ELEC 480/880.

**491/891. Special Topics in Physics** (1-3 cr, max 9) Lec. Prereq: PHYS 213 and permission. *Offered as the need arises to treat special topics not covered in other 400/800-level physics courses.* Topics vary.

**899. Masters Thesis** (6-10 cr)

Refer to the Graduate Bulletin for 900-level courses.

## Plant Biology

**Steering Committee:** Paparozzi (chair) (agronomy and horticulture); Lee (agronomy and horticulture); Mackenzie (agronomy and horticulture, biological sciences, and plant sciences initiative); Markwell (biochemistry); Osterman (biological sciences); Powers (plant pathology); Schacht (agronomy and horticulture); Wedin (natural resources)

**Chief Academic Adviser:** Lee (agronomy and horticulture) 262 Plant Sciences  
**Website:** <http://plantbiology.unl.edu>

The plant biology major is designed to provide a flexible entry for undergraduate students that have an interest in the plant sciences. Once enrolled in the program, students will take a core of classes that will allow them to continue in the plant biology major or would also allow them to easily transfer to other Life Sciences programs. Students will have the opportunity to interact with the faculty of the Plant Science Initiative as well as the above departments and schools for advising and research opportunities.

The goal of the plant biology program is to offer a field of study to students who are interested and talented in the basic sciences and mathematics and who: 1) may never have considered applying this knowledge to plants, 2) have always dreamed of this field of study, and/or 3) have always had an interest in plants but are uncertain that this field of study is right for them.

The purpose of this field of study would be to allow students to explore their knowledge of plants at the following levels: 1) molecular (biotechnology option); 2) cellular and organismal (biological, biochemical/chemical sciences); 3) whole plant/ applied physiological (horticulture and agronomy courses); and 4) ecological (ecology and management option). Students may select a bachelor of science track through the College of Agricultural Sciences and Natural Resources (see "Plant Biology" on page 95) or a bachelor of science track through the College of Arts and Sciences. Every student must complete a set of core courses that provide breadth in basic sciences. Introduction to Plant Biology should be taken during the first semester in the program. Students also must complete an emphasis to provide depth in one of the following options: Ecology and Management or Biotechnology.

The plant biology program includes a career experience/internship course (BIOS 395; AGRO/RNGE/SOIL 295; HORT 395; NRES 497) which provides the opportunity to gain work experience in an off-campus setting related to a student's academic and career objectives.

A research project initiated by the beginning of the junior year is required. Presentation of this work will be part of the Exploring Plant Biology course.

**Pass/No Pass.** Students in Plant Biology may not take any of the core courses required for the major Pass/No Pass except for the Exploring Plant Biology and Career Experience courses.

Students interested in majoring in plant biology through the College of Arts and Sciences are advised to make an initial appointment with the Chief Academic Adviser who will then assign them to a faculty member in Arts and Sciences.

**Program Assessment.** To gauge the effectiveness of this program, students will be required to start and maintain an experiential portfolio throughout their program, culminating with a presentation of their research in the Introduction to Plant Biology course.

## Requirements for the Major in Plant Biology

The core courses and one of the options must be completed.

### Core Courses (BS degree)

	Hours
AGRO/HORT/NRES 110 Exploring Plant Biology .....	1
<i>Exploring Plant Biology should be taken during the first semester in the program.</i>	
BIOS 395; AGRO/RNGE/SOIL 295; HORT 395; NRES 497 Career Experience.....	1
BIOS 498; AGRO/RNGE/SOIL 496; HORT 396 or 399; NRES 496 Independent Study/Current Project.....	1
MATH 106 or 106B Analytical Geometry & Calculus I ..	5
STAT 218 Intro to Statistics.....	3
AGRO 315 or BIOS 206 Genetics.....	4
AGRO 325 Introductory Plant Physiology .....	4
BIOC 321 & 321L or higher.....	4
BIOS 102 Cell Structure & Function.....	4
BIOS 103 Organismic Biology.....	4
BIOS 109 General Botany .....	4
BIOS 207 Ecology & Evolution .....	4
BIOS 471 Plant Taxonomy.....	4
CHEM 109 General Chemistry I.....	4
CHEM 110 General Chemistry II.....	4
CHEM 251 & 253 Organic Chemistry & Lab.....	4

### Ethics

ALEC 388. Ethics in Agriculture & Natural Resources (3 cr)

In the course of satisfying the College of Arts and Sciences ES requirements, students are encouraged to include a course in economics, and courses which will further enhance their oral communication skills. See your adviser to determine which course or courses may be best for you.

Students interested in attending graduate school should also take PHYS 141 or higher.

### Ecology and Management Option

AGRO 153. Soil Resources (4 cr)  
 AGRO 444. Vegetation Analysis (3 cr)

In addition, students must take at least 3 credits from each of the following six categories (Water/ Climate, Geospatial Information Sciences, Plant Identification, Plant-Animal-Organismal Interactions, Ecology and Management I and Ecology and Management II).

### Water/Climate

METR 200. Weather & Climate (4 cr)  
 NRES 208. Applied Climate Sciences (3 cr)  
 NRES 408. Microclimate: The Biological Environment (3 cr)

WATS 281. Intro to Water Science (3 cr)

### Geospatial Information Sciences

GEOG 412. Intro to Geographic Information Systems (4 cr)  
 GEOG 418. Intro to Remote Sensing (4 cr)  
 NRES 312. Intro to Geospatial Information Sciences (3 cr)

### Plant Identification

AGRO 442. Wildland Plants (3 cr)  
 BIOS 455. Great Plains Flora (4 cr)

**Plant-Animal-Organismal Interactions**

- AGRO 340. Range Management & Improvement (3 cr)  
 AGRO 460. Soil Microbiology (3 cr)  
 BIOS 475. Ornithology (3 cr)  
 BIOS 476. Mammalogy (4 cr)  
 ENTO 115. Insect Biology (3 cr) **and** ENTO 116. Insect Identification (1 cr)  
 NRES 211. Intro to Conservation Biology (3 cr)  
 NRES 311. Wildlife Ecology & Management (3 cr)  
 NRES 348. Wildlife Damage Management (3 cr)

**Ecology and Management I**

- AGRO 204. Resource-Efficient Crop Management (3 cr)  
 AGRO 240. Forage Crop and Range Management (4 cr)  
 HORT 130. Intro to Horticulture Science (4 cr)  
 NRES 310. Intro to Forest Management (4 cr)

**Ecology and Management II**

- AGRO 440. Great Plains Ecosystem (3 cr)  
 BIOS 454. Ecological Interactions (4 cr)  
 BIOS 457. Ecosystem Ecology (4 cr)  
 BIOS 470. Prairie Ecology (4 cr)  
 BIOS 473. Freshwater Algae (4 cr)  
 NRES 417. Agroforestry Systems in Sustainable Agriculture (3 cr)  
 NRES 424. Forest Ecology (4 cr)  
 NRES 459. Limnology (4 cr)  
 NRES 468. Wetlands (4 cr)

**Biotechnology Option**

- AGRI 115. Biotechnology: Food Health & Environment **or** PLPT 250 Biotechnology: From Science to Society (3 cr)  
 AGRO 216. Plant Breeding Principles & Practice (2 cr)  
 BIOS 312. Fundamentals of Microbiology (3 cr)  
 BIOS 427. Practical Bioinformatics Lab (3 cr)  
*Students considering graduate school should also take BIOS 478 Plant Anatomy (4 cr)*

In addition, students must take at least 2 credits or one course from each of the following four categories (Biological Sciences, Plant Biology, Applied Plant Biology and Plant and Food System Management) for a total of 15 hours or more.

**Biological Sciences**

- AGRO 460. Soil Microbiology (3 cr)  
 BIOS 205. Genetics, Molecular & Cellular Biology Lab (2 cr)  
 BIOS 302. Advanced Cell Structure & Function (3 cr)  
 BIOS 407. Biology of Cells & Organelles (4 cr)  
 BIOS 418. Advanced Genetics (3 cr)  
 BIOS 420. Molecular Genetics (3 cr)  
 BIOS 477. Bioinformatics & Molecular Evolution (3 cr)

**Plant Biology**

- AGRO 408. Microclimate: The Biological Environment (3 cr)  
 BIOS 425. Plant Biotechnology (3 cr)  
 HORT 221. Plant Propagation (3 cr)  
 NRES/HORT/AGRO 406. Plant Ecophysiology: Theory & Practice (4 cr)  
 PLPT 369. Introductory Plant Pathology (3 cr)

**Applied Plant Biology**

- AGRO 131 & 132. Plant Science & Lab **or** HORT 130 Intro to Horticulture Science (4 cr)  
 AGRO 411. Crop Genetic Engineering (1 cr)  
 AGRO 412. Crop and Weed Genetics (1 cr)

**Plant and Food System Management**

- AGRO 204. Resource Efficient Crop Management (3 cr)  
 AGRO 220. Principles of Weed Science (3 cr)  
 AGRO 240. Forage Crop & Range Management **or** HORT 327 Intro to the Science of Turf Management (3-4 cr)  
 AGRO 405. Crop Management Strategies **or** AGRO 435 Agroecology (3 cr)  
 AGRO 437. Animal, Food & Industrial Uses of Grain (2 cr)  
 AGRO 438. Producing Grain for Animal Food & Industrial Uses (1 cr)  
 ENTO 115. Insect Biology (3 cr) **and** ENTO 116. Insect Identification (1 cr)  
 FDST 205. Food Composition & Analysis (3 cr)  
 FDST 405 & 406. Food Microbiology & Lab (5 cr)  
 FDST 425. Food Toxicology (2 cr)  
 HORT 325. Greenhouse Practices & Management (4 cr)  
 HORT 355. Pot & Bedding Plant Production Lab (2 cr)  
 HORT 362. Nursery Crop Production Management (4 cr)  
 HORT 427. Turfgrass Management (3 cr)  
 HORT 470. Landscape Management (4 cr)

**Political Science**

**Chair:** Elizabeth Theiss-Morse, 509 Oldfather Hall  
**Graduate Chair:** Patrice McMahon, 525 Oldfather Hall  
**Undergraduate Chair:** John Gruhl, 534 Oldfather Hall  
**Undergraduate Adviser:** Marcia White, 514 Oldfather Hall  
**Professors:** Combs, Comer, Forsythe, Gruhl, Hibbing, Michaels, Smith, Theiss-Morse  
**Associate Professors:** McMahon, Miller, Orey, Rapkin, Wedeman  
**Assistant Professors:** Kohen, Mitchell, Tillman, Wagner

Courses in political science examine government and politics in the United States and around the world.

**The Courses.** For courses at the 400 level the prerequisite, unless otherwise stated, is junior standing or above or permission.

**Pass/No Pass.** Pass/no pass credit is not available in courses for the major except for POLS 395. Pass/no pass credit is allowed for courses in the minor, subject to College regulations. Request forms are available in the Arts and Sciences Advising Center, 107 Oldfather Hall.

**Requirements for the Major in Political Science**

- 30 hours including: a) POLS 100 or 100H or 105; b) POLS 108 or 380 or 383 or 384 or 386; c) POLS 400; d) 6 hours each in any three of the five following categories: American government, politics and law; foreign and comparative government; international relations; political theory, methodology, and behavior; public administration and policy; e) at least 9 hours at the 400 level.
- No minor is required.

**Honors Program.** Students interested in the honors program should contact John Gruhl, honors adviser, for further information.

**Policy Certificate.** An Undergraduate Public Policy Analysis Certificate, through political science, is available to undergraduates in any major and is for students interested in policy issues, policy-related job opportunities, and/or skills for the analysis of public policies and programs. For more information, visit [www.unl.edu/polisci/public/public\\_undergrad.html](http://www.unl.edu/polisci/public/public_undergrad.html).

**Prelaw Students.** Students in Prelaw may find the courses in American government, politics, and law particularly useful. In particular, they are advised to take some of the following courses: POLS 325, 345, 350, 441, 442, 443, and 469. College pre-law advising is located in the Advising Center, 107 Oldfather Hall.

**Requirements for the Minor in Political Science**

**Plan A.** 18 hours including POLS 100 and at least one course at the 400 level.

**Plan B.** 12 hours.

**Graduate Work.** The advanced degrees of master of arts and doctor of philosophy are offered. For details on these programs see the *Graduate Studies Bulletin*.

**Courses of Instruction (POLS)****American Government, Politics and Law**

(ACE 6, 8) [ES] 100. **Power and Politics in America** (3 cr)  
 Introduction to American government and politics.

[ES][IS] 105. **American Ways** (HIST 105) (3 cr) Prereq: Open to freshmen only. *Not open to students with credit in HIST 201 or 202 or POLS 100.*  
 For course description, see HIST 105.

[ES][IS] 221. **Politics in State and Local Governments** (3 cr)  
 Broad introduction to the political structure and operations of state and local governments. Role and power of state and local governments; government institutions; political parties and interest groups; public policy; state constitutions.

[ES] 225. **Nebraska Government and Politics** (3 cr)  
 Various aspects of Nebraska government and politics. Unicameral Legislature, the governor and executive branch, the courts, political parties in Nebraska politics, political participation, and current issues of concern to Nebraskans.

(ACE 6) [ES] 227. **The Presidency** (3 cr)  
 Creation, development, structure, powers, and functions of the office of the President of the United States.

(ACE 6) [ES] 230. **Elections, Political Parties, and Special Interests** (3 cr)  
 Roles of political parties and interest groups in government and politics, focusing on their efforts of elections and lobbying.

[ES][IS] 232. **Public Issues in America** (3 cr)  
 Major public issues in American politics. Government spending, civil rights; welfare and health care; poverty; education; urban problems; crime, violence and repression; defense policy; agricultural policy; environment/energy policy.

[ES][IS] 234. **Government Regulation** (3 cr)  
 Development of regulatory agencies, their functions, intended and unintended impact, and organizational and philosophical critiques of existing regulation. Relationship of regulation to the constitutional separation of powers and tenets of democracy. Emphasis on questions of democratic accountability and other aspects of political context in which regulatory agencies operate. Proposed reforms evaluated.

**(ACE 6, 9) [ES][IS] 238. Blacks and the American Political System** (ETHN 238) (3 cr)

Role of the Blacks in the American political system, with emphasis on strategies used to gain political power and influence decision makers; problems faced in the southern and urban political settings.

**295. Legislative Page Program** (3 cr) Fld. POLS 295 requires serving as page with the Nebraska Unicameral. Pass/No Pass only. The development and workings of the Nebraska legislature.**[ES][IS] 325. Legislative Process** (3 cr)

Legislature's role in the American arrangement of legislative-executive-judicial responsibilities. Attention to the internal operation of the Congress with focus on the standing committee stage. State legislative experiences and proposals to reform the legislative system emphasized.

**[ES] 334. Polls, Politics and Public Opinion** (COMM 334) (3 cr)

Attitudes and behavior of citizens with respect to politics, how these attitudes and behaviors are shaped, how they are measured, and what influence they have on government.

**[ES][IS] 338. Women and Politics** (WMNS 338) (3 cr) Lec 3.

Survey of women as political actors: participation in political life, barriers to participation, political attitudes, issues of special concern to women, and issues of particular concern to women of color.

**[ES] 345. Courts, Judges, and Lawyers** (3 cr)

Role of courts, judges, and lawyers in the American legal system and political process. Covers all federal and state courts but emphasizes the US Supreme Court.

**350. Myths and Realities of the Justice System** (3 cr)

American criminal justice system from arrest through sentencing. How the system appears to operate. How the system actually operates.

**414/814. Intergovernmental Relations** (3 cr)

See description under "Public Administration and Policy" on page 209.

**[IS] 425/825. Congress and Public Policy** (3 cr)

The policy making role of the Congress including the institutionalization of the House and the Senate, an analysis of congressional behavior, the committee process, and the policy responsiveness of Congress.

**[IS] 426/826. Topics in American Public Policy** (3 cr) POLS

426/826 may be repeated for up to 6 credit hours.

See description under "Public Administration and Policy" on page 209.

**[IS] 430/830. Political Communication** (COMM 430/830) (3 cr)

Prereq: 12 hrs communication studies, including COMM 130 or permission.

Role of communication in the political process, with emphasis on communication strategies in political campaigns. Includes communication variables important in the political process, an application of communication theory and principles to political rhetoric, and analysis and criticism of selected political communication events.

**[IS] 441/841. Constitutional Law** (3 cr)

Supreme Court doctrine determining the distribution of powers within the national government and between the national government and the state governments.

**[IS] 442/842. Civil Liberties: Freedom of Expression and Conviction** (3 cr)

Supreme Court doctrine interpreting the First Amendment, covering freedom of speech, assembly, and association; freedom of the press; and freedom of religion.

**[IS] 443/843. Civil Liberties: Issues of Fairness and Equality** (3 cr)

Supreme Court doctrine covering the rights of the accused, the right to privacy and the right to racial and sexual equality.

**[IS] 481/881. Political Behavior** (3 cr)

Various theories of political behavior at the individual level. The usefulness of these theories in explaining individual political behavior.

**820. Core-Seminar in American Government** (3 cr)

Refer to the Graduate Bulletin for 900-level courses.

**Foreign and Comparative Government****[ES] 104. Comparative Politics** (3 cr)

Description and analysis of the principal types of modern political systems, including types of democracies and dictatorships found in Western systems, Eastern systems, and the Third World. Occasional comparison made with American institutions and political processes. Deals both with structures and major policy problems confronting these political systems: the politics of education, human rights, demands for regional autonomy, ethnic conflict and diversity, political violence, demand for welfare services, crises in agriculture, and other topics of relevance.

**[ES] 171. Introduction to East Asian Civilization** (HIST 181) (3 cr)

For course description, see HIST 181.

**[ES] 271. West European Politics** (3 cr)

Postwar western European politics and policy-making in comparative perspective. Political institutions and the role and behavior of political parties. European integration, environmental policy, welfare policy, regionalism, and immigration.

**[ES][IS] 272. Non-Western Politics** (3 cr)

Introduction to the politics of the Third World nations of Asia, Africa, and Latin America. Evolution of post-colonial state, the origins and explanations of political violence, and the effects of economic weakness, cultural pluralism, and social structure on politics. Examined within the context of the international political and economic system.

**[ES][IS] 274. Developmental Politics in East Asia** (3 cr)

Political economy of development in the "Asian Tigers": Taiwan, South Korea, and Malaysia. Historical roots of these "developmental states." Political and economic structures associated with rapid development. Process of democratization and political change that have occurred as these states modernize.

**[ES] 275. Post-Communist Politics and Change** (3 cr) POLS 275 requires theoretical and comparative thinking using concepts and theories in comparative politics, regime transition, state-society debates, and democratization.

Post-communist politics of East Central, Central Europe or Eastern Europe (includes twelve countries) focusing on the Czech Republic, Hungary, Poland, and the Yugoslav states. Politics and history of the region.

**[ES] 277. Latin American Politics** (3 cr)

Constitutional and political development of selected Latin American countries; contemporary problems and institutions. Latin America in world affairs with special reference to the inter-American relations and the United States.

**[ES][IS] 281. Challenges to the State** (3 cr)

Challenges to the state related to human rights and gender issues. How growth of non-state actors affects individuals and groups and their rights. Gendered notions of the state, national security, women's rights, and humanitarian intervention.

**[ES][IS] 371. Politics of the European Union** (3 cr)

European Union from its inception in the early postwar period to the present. How the balancing act between individual countries' national interests and the transfer of sovereignty to the supranational government of the EU affects policy making, administration, and the construction of EU institutions.

**[ES] 372. Russian Politics** (3 cr)

Political, economic, and social changes currently affecting the Russian Federation. External and internal factors affecting Russia's domestic and foreign policy. Problems and challenges of democratization and economic reform.

**[IS] 374. Japanese Politics** (3 cr)

Introduction and overview of post-war Japanese politics, focusing on rise and fall of one party democracy and political economy of Japan's capitalist development state, and examining impact of rapid development to Japanese society.

**[IS] 376. Chinese Politics** (3 cr)

Contemporary Chinese politics. Post-Mao period. Political, economic, and social consequences of Deng Xiaoping's reforms. Prospects for the post-Deng period.

**463/863. American Foreign Policy and the Use of the Military** (3 cr) Lec 3.

Military action as an instrument of American foreign policy. Constitutional basis of the president's and Congress's war powers; assessments of the role of the White House, Congress, CIA, senior pentagon officials, the American public, and military

alliances—NATO and coalitions of the willing—in supporting and directing the use of military action abroad; and the political and strategic consequences of various American applications of military force.

**471/871. Comparative Public Policy: A Cross-National Approach** (3 cr)

Various approaches to the study of public policy outside the United States with emphasis on Western industrial societies. Policy formation and the various factors that influence policy outputs, the relationship between policy outputs and policy outcomes, efforts to classify and evaluate various types of policy outputs, and the influence of policy on politics.

**[IS] 472. State Terror** (3 cr) Prereq: Permission.

Use of terror as an instrument of state policy. A series of case studies of large scale politically based killings. Why and which states use terror and politicide against their own citizens.

**[IS] 474/874. Comparative Institutions** (3 cr)

Formal and informal institutions such as constitutions, electoral rules, property rights, and civil rights. How and why people in different groups, countries, and cultures construct institutions to facilitate collective action. Whether different groups construct distinctly different institutions to deal with similar problems and why similar institutions seem to work differently in distinct societies.

**[IS] 476/876. Ethnic Conflict and Identity** (JUDS 476) (3 cr)

Theories of nationalism and ethnic conflict. Case studies of Europe, the Middle East, and Africa. The post-Cold War era as multi-polar and multi-civilizational. The states and different cultures that compete for influence and authority to dominate the "New World order." The division of the world along ethnic, religious, and class lines rather than by ideology. The future of international politics and the reassessment of the causes of "conflicts of culture" and their containment.

**[IS] 477/877. Israel and the Middle East** (JUDS 477) (3 cr)

Israeli politics, society, and relations with its neighbors, particularly the Palestinians. Rise of Zionism and the Palestinian response to it; wars between Israel and Arab neighbors, and the eventual peace agreements between the two; the internal dynamics of Israeli political life; and state of Zionism today.

**[IS] 478/878. Pro-seminar in Latin American Studies** (LAMS

478; ANTH, EDPS, GEOG, HIST, MODL, SOCI 478/878) (3 cr, max 6) Prereq: Junior standing and permission. *Topical seminar required for all Latin American Studies majors.*

For course description, see ANTH 478/878.

**872. Core-seminar in Comparative Politics** (3 cr)

Refer to the Graduate Bulletin for 900-level courses.

**International Relations****(ACE 9) [ES] 160. International Relations** (3 cr)

How and why states act as they do in their contemporary international relations. Continuing factors, such as power, war, ideology, and governmental organizations, and recently emerging influences, including supranational organizations, multinational corporations, and natural resource allocation analyzed. Diverse approaches and theories examined.

**[ES] 260. Problems in International Relations** (3 cr)

Selected current or otherwise important problems in international relations. Content varies but may include such subjects as weapons and security policies, human rights, multinational corporations, ideologies, etc.

**[ES] 261. Conflict and Conflict Resolution** (ANTH, PSYC, SOCI 261) (3 cr) *Core course for minors in conflict and conflict resolution.*

Introduction to the study of the biological, economic, political-historical, and cultural bases of war and group conflict.

**[ES] 263. Causes of War and Peace** (3 cr)

Leading theories on war and peace, highlighting the causes and consequences of WWI, WWII, the Korean War, Vietnam, and the Gulf War.

**[ES] 268. Threats to World Order** (3 cr)

Variety of global crises and challenges that pose threats to world order. Population growth; scarcities of food, energy, and non-fuel minerals; vulnerability of industrial states to resource scarcities; nuclear proliferation; arms racing; and terrorism.

[ES][IS] 281. **Challenges to the State** (3 cr)  
See description under Foreign and Comparative Government.

**360. Understanding World Politics** (3 cr)  
Advanced concepts and theories central to understanding world politics, including dependency, hegemony, geopolitics, regional integration, multilateralism, transnationalism, nationalism, and ethnic conflict.

**361. The United Nations and World Politics** (3 cr)  
Analysis of the role and influence of the United Nations in international relations. Comparison of the UN with the League of Nations and with regional international organizations such as the Organization of American States and NATO. Attention to UN programs concerning security, human rights, economic development, and environmental protection.

**362. Globalization, Human Rights and Diversity** (3 cr)  
Sources of globalization, its various forms, and how it triggers resistance from those who wish to preserve the local and particular from globalizing influences.

[IS] 363. **United States Foreign Policy** (3 cr)  
Major domestic factors affecting how US foreign policy is made and the resulting patterns of policy. US foreign policy in four issue-areas: security, human rights, economics, and ecology.

**365. The United States and Latin America** (3 cr)  
The relations between the United States, Latin America, and between the individual nations of the region.

[IS] 459/859. **International Political Economy** (3 cr)  
Interface of politics and economics in the international arena. Political dimension of international economic issues emphasized. Includes: liberal, mercantile, and radical approaches; theories of imperialism; dependency and interdependency; distribution of the global product; the global division of labor; the political aspects of markets; the politics of trade, aid, investment, multinational corporations, food, and energy.

[IS] 462/862. **Security in the Post-Cold War Era** (3 cr)  
Emerging trends in security studies. The claim or hope that military force is no longer important in the post-Cold War era. The continued utility and effectiveness of war as evidenced throughout the world. New threats, environmental problems, population growth, and non-governmental organizations, as threats to the international system.

**464/864. Political Economy of the Asia-Pacific** (3 cr)  
International relations of the Asia-Pacific. Security, economics, and interaction between China, Japan, the United States, and other regional powers.

**466/866. Pro-seminar in International Relations I** (AECN 467; ANTH, HIST 479/879; ECON, SOCI 466/866; GEOG 448/848) (3 cr) Prereq: Permission. *Open to students with an interest in international relations.*  
Topics vary.

**467/867. Pro-seminar in International Relations II** (ECON 467/867) (3 cr) Prereq: Permission. *Open to students with an interest in international relations.*  
Topics vary.

**468/868. Organizing World Order** (3-6 cr) *POLS 468/868 may be repeated once for credit if content changes.*  
Structures and forces relevant to creation of order in world politics. Contents may vary according to semester and instructor. Topics: trends within the United Nations system; transnational economic integration; patterns in arms control and disarmament; prospects for a United States of Europe; human rights and international violence; the United States' response to terrorism and guerrilla warfare; the management of conflict; economic development and world order.

**469/869. International Law** (3 cr)  
Rules and principles accepted by the members of the community of nations as defining their rights and duties, and the procedure employed in protecting their rights and performing their duties.

**470/870. International Human Rights** (3 cr)  
Development of international norms on human rights and attempts to implement those standards. Emphasis on political process, with attention to law, philosophy, economics, and culture. Coverage of the United Nations, regional organizations, private agencies, and national foreign policies.

[IS] 472. **State Terror** (3 cr) Prereq: Permission.  
See description under Foreign and Comparative Government.

**473/873. Problems in International Law and Organization** (3 cr) Prereq: POLS 361 or 469 highly recommended.  
Selected issues in international law and organization. Content varies. Includes: US Senate's treatment of treaties, use of customary law by US courts, current cases before the World Court, leading legal issues handled by the UN Security Council and General Assembly, etc.

[IS] 476/876. **Ethnic Conflict and Identity** (JUDS 476) (3 cr)  
See description under Foreign and Comparative Government.

**479. Insurgency, Guerrilla Warfare, and Terrorism** (3 cr) Lec 3.  
Nature, strategies, and mechanics of insurgency, guerrilla warfare and terrorism, where they fit in the spectrum of conflict, and various techniques and methods for analyzing them.

**860. Core-seminar in International Politics** (3 cr)

Refer to the Graduate Bulletin for 900-level courses.

## Political Theory

[ES] 108. **Political Ideas** (3 cr)  
Introduction to major political concepts and controversies that have developed in the Western world. Liberty, equality, democracy, human nature, among others. Readings come from leading political theorists, past and present.

[ES] 380. **American Political Thought** (3 cr)  
Theories and conceptions underlying development of the American system of government, attention being chiefly directed to the views of publicists and statesmen.

[IS] 383. **Justice and the Good Life** (3 cr) Lec 3.  
The questions of how we ought to live our lives via the study of classic texts in political thought. Debate what makes our actions—and indeed our lives—just, choice-worthy, and even heroic.

[IS] 384. **Liberalism and Its Critics** (3 cr) Lec 3.  
The core ideas of liberal political thought. Critiques from both the Left and the Right to shed light on why the American experiment in governance—with its intellectual roots in the Enlightenment of seventeenth and eighteenth century Europe—turned out as it did and how it might have been changed or improved.

[IS] 386. **Truth and Progress** (3 cr) Lec 3.  
Surveys the landscape of contemporary political theory, addressing some of the major debates of the past twenty years about reason, right action, human nature, good government, and truth.

**880. Core-seminar in Political Theory** (3 cr)

Refer to the Graduate Bulletin for 900-level courses.

## Public Administration and Policy

[ES] 210. **Bureaucracy and the American Political System** (3 cr)  
Introductory survey to the administrative arm of American national, state, and local government. Bureaucracy has become so important to the functioning of the federal system it has been termed "the fourth branch of government." Bureaucracy's role as a political institution of the first order, not just as an implementer of policy. Bureaucratic power, structure, and democratic control.

[ES][IS] 234. **Government Regulation** (3 cr)  
Development of regulatory agencies, their functions, intended and unintended impact, and organizational and philosophical critiques of existing regulation. Relationship of regulation to the constitutional separation of powers and tenets of democracy explored. Questions of democratic accountability and other aspects of political context in which regulatory agencies operate. Proposed reforms evaluated.

[ES] 235. **Public Policy: Concepts and Processes** (3 cr)  
Basic policy theories and the policy process, paying special attention to key events that create or prevent policy opportunities and problems that arise throughout the policy process. Substantive policy issues used to illustrate the various concepts and process models.

[ES][IS] 236. **Public Policy Analysis: Methods and Models** (3 cr)  
Approaches to public policy analysis. The nature of politics and policy with emphasis on the role of the citizen, uses of information types in the formation of public policy, the analysis of policy content, and the problems of training for policy analysis. Basic policy analysis methods including interviewing participant observation, document analysis, and surveying.

[IS] 410/810. **The Administrative Process** (3 cr)  
Interdisciplinary examination of the internal dynamics of public and private organizations.

**414/814. Intergovernmental Relations** (3 cr)  
Analysis of the nature and problems of the American federal system, with emphasis on the politics and administration of federal grants; problems in national-state and national-local governmental coordination in administration.

**417/817. Policy and Program Evaluation Research** (SOCI 468/868) (3 cr) Prereq: 6 hrs social sciences.  
Techniques useful for research aiding in policy making and for assessing the impact of policy. Acquaints student with the role of research in policy formation and evaluation and to give the student experience in conducting such research.

[IS] 426/826. **Topics in American Public Policy** (3 cr) *This course may be repeated for up to 6 credit hours. Students should check the semester schedule for current offerings.*  
A significant public policy in American politics. Topics: science, technology, and public policy; or health politics.

**471/871. Comparative Public Policy: A Cross-National Approach** (3 cr)  
Various approaches to public policy outside the United States with emphasis on Western industrial societies. Includes policy formation and the various factors that influence policy outputs, the relationship between policy outputs and policy outcomes, efforts to classify and evaluate various types of policy outputs, and the influence of policy on politics.

(ACE 10) **475/875. Water Quality Strategy** (AGRO, CRPL, CIVE, GEOL, MSYM, NRES, SOCI 475/875; SOIL, WATS 475) (3 cr II) Prereq: Senior standing or permission.  
For course description, see AGRO 475/875.

**831. Core Seminar in Public Policy and Process** (3 cr)

**836. Public Policy Analysis: Methods and Models** (3 cr)

Refer to the Graduate Bulletin for 900-level courses.

## Other, Theses, and Dissertations

[ES][IS] 189H. **University Honors Seminar** (3 cr) Prereq: Good standing in the University Honors Program or by invitation. *University Honors Seminar 189H is required of all students in the University Honors Program.*  
Topics vary.

**198. Special Topics** (3 cr) Lec 3.

(ACE 4, 6) [ES] 250. **Genetics, Behavior and Politics** (3 cr) Lec 3.  
Role of genes in shaping human behavior, especially political behavior. Basic principles of evolutionary psychology, brain anatomy, social behavior, and genetics.

[ES][IS] 286. **Political Analysis** (3 cr) Lec 3.  
Ways of studying politics and social situations. Rather than asking what political systems "should" do, the primary questions are what political systems actually do and how we know what they do. Whether the application of the scientific process to social questions is valid? Problems in carrying out proper scientific research. The wide variety of techniques that have been applied to analyze politics.

**395. Internship in Political Science** (1-6 cr) Fld. Prereq: Junior standing and 12 hrs POLS. *Pass/No Pass only. POLS 395 requires the assignment of and the supervision by a faculty member.*  
Internship in government agencies, public-interest groups, political parties, or other organizations.

**398. Special Topics** (1-24 cr)

**399. Individual Readings** (1-24 cr) Prereq: Permission.

**399H. Honors: Individual Research** (1-6 cr, max 6) Prereq: Good standing in the university honors program or by invitation; open to candidates for degrees with distinction, with high distinction, and with highest distinction in the College of Arts and Sciences.

(ACE 10) [IS] **400. Democracy and Democratic Citizenship** (3 cr) Prereq: Political science major or permission.

Democracy as a form of government. Types of democracy, alternatives to democracy, and the history and consequences of democracy. Democratic citizenship, what makes a good democratic citizen, whether and how democratic citizenship can be promoted.

**498/898. Special Topics** (3 cr, max 24)

**802. Professional Development in Political Science** (3 cr) Prereq: Permission.

**891. Individual Readings** (1-24 cr) Prereq: Prior permission.

**899. Masters Thesis** (6-10 cr)

Refer to the Graduate Bulletin for 900-level courses.

## Psychology

**Chair:** David Hansen, 238 Burnett Hall

**Vice Chair:** Rick Bevins, 238 Burnett Hall

**Professors:** Belli, Bevins, Bornstein, Carlo, Crockett, Flowers, Garbin, Hansen, Hope, Leger, Pope-Edwards, Spaulding, Tomkins, Wiener, Wilcox

**Associate Professors:** DiLillo, Scalora, Willis-Esqueda

**Assistant Professors:** Brank, Dodd, Gervais, Hoffman, Li, McChargue, Shutte

The undergraduate degree program in psychology is designed to provide students with educational experiences that are conducive to entering diverse careers ranging from academic psychology to such applied fields as counseling, business, and human services. Careful selection of courses from within the required groups and of supplementary courses in psychology and related fields will help students pursue their chosen career. Students who plan to major in psychology should meet with a departmental adviser as early as possible to plan a program of courses consistent with their interests and goals.

## Requirements for the Major in Psychology

1. PSYC 181

2. Two courses from each of the following groups:  
**Group 1:** PSYC 233, 263, 268, 270, 360, 373  
**Group 2:** PSYC 287, 288, 289, 380

3. PSYC 350

4. One course from each of the following groups:  
**Group 1:** PSYC 456, 460, 461, 463, 464, 465, or BIOS 462  
**Group 2:** PSYC 462, 483, 485, 486, 488, 489

5. Any two additional 400-level courses, excluding 496, 497, 499.

6. Total credit hours required: 32

Appropriate credit toward the psychology major requirements will be granted for psychology courses that are cross-listed in other departments but taken in another department. Credit toward the major will be granted even if the course is applied to another major or minor.

**Program Assessment.** In order to assist the department in evaluating the effectiveness of its programs, selected majors will be required:

1. To submit copies of work produced in 200-, 300-, and 400-level courses to an assessment committee.
2. In their last semester, to complete a written exit survey.

Results of participation in these assessment activities will in no way affect a student's GPA or graduation.

**A minor is required.** Plan A consists of one minor; Plan B consists of two minors. Check individual department listings for requirements.

## Requirements for the Minor in Psychology

**Plan A (1 minor):**

1. PSYC 181
2. 14 credit hours at the 200 level or above, 9 of which must be at the 300 level or above.

Minimum: 18 credit hours

**Plan B (2 minors):**

1. PSYC 181
2. Plus three other courses at the 200 level or above.

Minimum: 12 credit hours.

No more than 3 hours from the following courses can count toward the minor: PSYC 296, 297, 299, 396, 496, 497, or 499.

Appropriate credit toward the psychology major requirements will be granted for psychology courses that are cross-listed in other departments but taken in another department. Credit toward the major will be granted even if the course is applied to another major or minor.

**Pass/No Pass.** Up to 6 hours of Pass/No Pass credit may be taken in major requirements. Majors may take up to 6 hours Pass/No Pass in their minor(s), subject to the approval of the department(s) granting the minor(s). Students minoring in this department may take up to 6 hours Pass/No Pass.

**Graduate Work.** Graduate programs leading to the doctor of philosophy degree are offered in the department. A detailed description of these courses appears in the *Graduate Studies Bulletin*.

## Courses of Instruction (PSYC)

**100. Career Planning for Psychology Majors** (1 cr) *Pass/No Pass only. Students should take this course as early in their studies as possible, even if they have not taken PSYC 181. This course does not apply to the psychology major.*

Survey of careers frequently sought by psychology majors, and recommendations for course work and experience for attaining students' career goals. Includes departmental, college, and university resources of value to students' educational and career objectives, and preparation for graduate study in psychology and related fields.

**150. Introduction to Health Professions** (1 cr) Lec 1. Structure, requirements, and nature of health careers.

(ACE 6) [ES] **181. Introduction to Psychology** (4 cr)

Introduction to concepts and research in the areas of personality, attitudes, emotion, learning, memory, perception, and physiological bases of behavior. While the course is a prerequisite for all other psychology courses, the content is presented in a manner appropriate for students planning to take only a minimum of courses in psychology.

(ACE 6) [ES] **181H. Honors: Introduction to Psychology** (4 cr) Prereq: Good standing in the University Honors Program or by invitation. *Equivalent to PSYC 181 for purposes of prerequisites for*

*other psychology courses. Serves as both an introduction to the field for those desiring only one psychology course, and as a stepping-stone to more advanced psychology courses.* Introduction to concepts and research in the areas of personality, attitudes, emotion, learning, memory, perception, and physiological bases of behavior.

[ES] **222. Psychological Aspects of Alcohol** (3 cr) Prereq: PSYC 181 or 6 hrs of sociology or anthropology, or permission. *This course is also appropriate for individuals working in the alcohol fields.*

Introduction to the historical, social psychological, and physiological aspects of alcohol use and abuse. Alcoholism definitions and typologies examined and theoretical approaches to the development of this disorder discussed including constitutional, psychological, and sociological conceptualizations, treatment, prevention, and intervention procedures used to cope with the problem of alcoholism.

(ACE 6) [ES] **233. Aggression** (3 cr) Prereq: PSYC 181 or equivalent.

Aggressive behavior from biological, developmental, social, and psychological perspectives.

[ES] **261. Conflict and Conflict Resolution** (ANTH, POLS, SOCI 261) (3 cr)

For course description, see POLS 261.

(ACE 6) [ES][IS] **263. Introduction to Cognitive Processes** (3 cr) Prereq: PSYC 181.

Introduction to the psychological processes involved in pattern recognition, memory, human learning, problem solving, language development, verbal communication, and decision making, as viewed from an information processing standpoint.

[ES][IS] **268. Learning and Motivation** (3 cr) Prereq: PSYC 181 or equivalent.

Introduction to processes of instrumental and classical conditioning in animals and humans, and to theories of and research on motivation.

[ES] **270. Evolution, Behavior and Society** (3 cr) Prereq: PSYC 181, BIOS 101 and 101L, or equivalent.

Application of modern evolutionary theory to contemporary societal problems. Understanding human behaviors such as aggression, parenting and social systems, the role of evolutionary thought in medicine, and evolutionary approaches to cognition and intelligence.

[ES] **287. Psychology of Personality** (3 cr) Prereq: PSYC 181 or equivalent.

Introduction to factors influencing personality and its development; the dynamics of personality adjustment.

[ES][IS] **288. Psychology of Social Behavior** (3 cr) Prereq: PSYC 181 or equivalent.

Social factors influencing the values, attitudes, and behavior of the individual, including language, propaganda leadership, and group identifications.

(ACE 6) [ES] **289. Developmental Psychology** (3 cr) Lec 3. Prereq: PSYC 181 or equivalent.

Developmental approaches to human behavior from conception to senescence. Theories, methods, and results of research.

[ES] **296. Practicum in Keller Plan Instruction I** (3-4 cr) Prereq: Completion of PSYC 181 taught via the Keller Plan (PSI) with an grade of A or A-; and permission of Keller Plan instructor. *Cannot be taken Pass/No Pass.*

General psychology in the context of a self-paced course. Working one-to-one with students in an introductory psychology course.

**297. Experiential Learning in Psychology I** (1-24 cr) Prereq:

Sophomore or junior standing; prior arrangement with and permission of individual faculty member. *Pass/ No Pass only.*

Experience within a psychological perspective in a variety of off-campus settings.

**298. Special Topics in Psychology** (1-3 cr) Prereq: Permission.

**299. Independent Study in Psychology** (1-24 cr) Prereq: Sophomore or junior standing; prior arrangement with and permission of individual faculty member.

Psychological research or reading.

[ES] **310. Psychology of Immigration** (ETHN 310) (3 cr) Prereq: PSYC 181 or permission.

Examines psychological theory and research on the topic of immigration. Includes the impact of immigration on individual

development (e.g., socialization, identity formation, acculturation) and family functioning (e.g., intergenerational relations, gender roles), especially as exemplified by the experiences of Latinos from diverse national backgrounds.

### 330. Psychology of Diversity (3 cr) Lec.

Survey of theory and research on the psychological aspects of ethnicity and racism, gender, and sexual orientation, including biological, social, and cultural influences. Causes and nature of prejudice in U.S. society towards minorities and women. Research methods for key topics with these identified groups.

### (ACE 10) [IS] 350. Research Methods and Data Analysis (4 cr) Lec 3, lab 2. Prereq: High school algebra or equivalent; 10 cr PSYC, including PSYC 181. Grade only.

Introduction to the basic methods employed in behavioral and psychological research and the statistical techniques required for describing and interpreting research results. Philosophy of science, communication of research results, overviews of common research strategies (e.g., naturalistic research, surveys, experimental/quasi-experimental designs) measurement scales, and some elementary statistics. Practical experience with data collection and descriptive statistics.

### 360. Psychology of Language (3 cr) Prereq: PSYC 181 or equivalent; PSYC 263 and 350.

Introduction to one of the most important human behaviors, language, from the viewpoint of the psychologist.

### (ACE 4) [ES] 373. Biopsychology (BIOS 373) (3 cr) Prereq: PSYC 181 and BIOS 101/101L or their equivalents.

Critical introduction into methods and concepts useful in analyzing the biological basis of animal behavior. Topics surveyed are the physiological, genetic, developmental, and environmental mechanisms controlling behavior in various species of animals including humans.

### 380. Abnormal Psychology (3 cr) Prereq: 6 hrs psychology including one of the following: PSYC 287, 288, 289, 350, or 351. Etiology and development of abnormal behavior, including the constitutional, cultural, and experimental factors; the psychological aspects of the psychoses and neuroses.

### 394. Seminar in Behavioral Biology (BIOS 394) (1 cr, max 24) Prereq: PSYC/BIOS 373. May be repeated for credit under different topics.

Critical reading and discussion of literature on topics dealing with the biological bases of behavior.

### 396. Practicum in Keller Plan Instruction II (3-4 cr, max 4) Prereq: PSYC 296 and permission of Keller Plan instructor. Pass/No Pass is not allowed.

Advanced practicum for students having completed PSYC 296.

### 399H. Honors Course (1-4 cr) Prereq: For candidates for degrees with distinction, with high distinction, and with highest distinction in the College of Arts and Sciences.

### 401. Psychology and Law (3 cr) Prereq: 12 hours psychology. Survey of the relationships between psychology and the law, legal system and legal process. Issues in research, theory, and practice considered.

### [ES][IS] 421/821. Psychology of Gender (WMNS 421/821) (3 cr) Lec 3. Prereq: 12 hrs PSYC.

Theory and research on the role of gender in human behavior and attitudes. Diverse theoretical positions on the development of gender and the biological, social, and cultural bases that influence the relationship between gender and a variety of areas of human experience (e.g., intelligence and achievement, emotion, relationships, sexuality, physical fitness, stress, and coping).

### [IS] 425/825. Psychology of Racism (ETHN 425) (3 cr) Prereq: For psychology majors: PSYC 350. For non-psychology majors: any research methods course.

Major terms and issues in psychology that pertain to race and racism in the United States. General principles of the psychology of racism that are universal. Psychology of the major racial minority groups in the United States examined through their unique cultures, histories, traditions, and collective identities. Research methods for the psychology of racism reviewed as a basis for interpreting research results.

### [IS] 428/828. Health Psychology (3 cr) Prereq: Junior standing. The relationship between psychological factors and physical health. Health behavior, health decision-making, health promotion and coping from a variety of theoretical perspectives.

### [IS] 440/840. Perspectives in Psychology (3 cr) Prereq: 12 hrs psychology.

Currently important fundamental issues in psychology considered within a framework of their philosophical foundations and historical perspectives.

### 446. Psychology of Adult Development and Aging (GERO 446) (3 cr) Prereq: PSYC 181 or GERO 200.

For course description, see GERO 446.

### [IS] 450. Advanced Research Methods and Analysis (4 cr) Lec 3, lab 3. Prereq: PSYC 350 with a grade of C or better. *Perform, analyze, and report on an individual research project. Grade only.* Experimental research techniques and statistical analyses used in psychology. History of research methods and introduction to multivariate research methods. Theory and practice of research procedures, data analyses, and research report writing for single-factor and factorial research design.

### [IS] 451/851. Psychological Measurement and Prediction (4 cr) Lec 3, lab 3. Prereq: 12 cr PSYC. *A course in elementary statistics is highly recommended. Grade only.*

Theoretical issues and practical problems related to measurement and prediction in psychology. Interpretation of mental-test statistics.

### [IS] 456. Developmental Biopsychology (3 cr) Prereq: PSYC/BIOS 373.

Age-related behavioral changes in humans and other animals using genetic, neural, hormonal, and evolutionary concepts and data. Behavioral systems, such as sexual and parental behaviors, aggression, communication, social affiliation, and cognition.

### [IS] 460/860. Human Memory (3 cr) Prereq: 12 hrs psychology, including PSYC 350.

Issues in human memory within the context of cognitive psychology: attention; short and long term memory; retrieval processes; semantic memory; how long-term memory is involved in comprehension and knowledge; how emotion affects memory; and the major research paradigms used in the study of memory.

### [IS] 461/861. Learning Processes (3 cr) Prereq: 12 hrs psychology, including PSYC 268.

Theoretical evaluation of studies of learning, thinking, and perception.

### [IS] 462/862. Motivation and Emotion (3 cr) Prereq: 12 hrs psychology, including PSYC 350.

Major problems and methods involved in the study of motivation and emotion including theoretical considerations.

### [IS] 463/863. Perception (3 cr) Prereq: 12 hrs psychology, including either PSYC 263 or 373.

Analysis and comparison of approaches to the study of current problems in human perception and information processing. Psychophysical judgment, signal detection theory, perception of form and space, and the role of imagery in perception.

### 464. Psychoneuropharmacology (3 cr) Prereq: PSYC 268 or 373.

Understanding behavioral and psychological phenomena using pharmacological tools. Topics from neurobiology of receptor functioning to the concerted actions of neural mechanisms that are believed to produce such phenomena as fear and anxiety, substance abuse, and neurological disorders.

### 465/865. Behavioral Neuroscience (BIOS 419/819) (2-3 cr)

Prereq: 12 hrs psychology or 12 hrs biological sciences, including PSYC 373 or BIOS 373.

Relationship of physiological variables to behavior, an introduction to laboratory techniques in neuropsychology.

### 470. Science and Parapsychology (3 cr) Prereq: PSYC 350.

Application of advanced scientific research methods and standard psychological concepts from physiological, sensory-perceptual, learning, social, and abnormal psychology to provide naturalistic explanations of experiences and events which have been labeled "paranormal". Includes psychic powers (extra-sensory perception, clairvoyance), dowsing, astrology, hypnosis, ghosts, reincarnation, UFO sightings, and UFO abductions.

### 471/871. Human Sexuality and Society (EDPS, CYAF, SOCI 471/871) (3 cr) Prereq: Junior standing and 12 hrs in one of the

departments in which the course is listed. *Open to advanced students planning careers in the professions in which knowledge of human behavior and society is important (e.g., helping professions, medicine, law, ministry, education, etc.).* Interdisciplinary approach to the study of human sexuality in terms of the psychological, social, cultural, anthropological,

legal, historical, and physical characteristics of individual sexuality and sex in society.

### 472/872. Transpersonal Psychology (3 cr) Prereq: 12 hrs psychology. Transpersonal psychology perspective including biological, social, psychological and spiritual aspects in a holistic conception of human nature. Integrates the psychology of Christian Mysticism, Buddhist meditation, and Eastern wisdom with Western scientific personality theory.

### [IS] 483/883. Psychology of Social Behavior (3 cr) Prereq: 12 hrs psychology, including one 200-level Group 2 course. Major problems, methods, and findings in the study of individual behavior as it is influenced by the social environment. Culture, personality, group behavior, aggression, pro-social behavior, attitudes and social cognition.

### 485/885. Theories of Personality (3 cr) Prereq: 12 hrs psychology, including one 200-level Group 2 course.

Detailed comparative study of the classic and modern theories of personality from the point of view of conflicts in the philosophies of science and images of man implied in the various theories.

### [IS] 486/886. Clinical Psychology (3 cr) Prereq: 12 hrs psychology, including one 200-level Group 2 course.

Fundamental procedures in clinical practice, a critical evaluation of diagnostic and therapeutic techniques.

### 488/888. Community Psychology (3 cr) Prereq: 12 hrs psychology, including one 200-level Group 2 course.

Examines the phenomena and perspectives typically included under the rubric community psychology, e.g., community mental health, crisis intervention, and social change interventions.

### 489/889. Child Behavior and Development (3 cr) Prereq: 12 hrs psychology, including one 200-level Group 2 course.

Current issues in theory and research in developmental psychology examined (e.g., emotional development, the changing American family, the preschool years, social understanding), along with methods of research in these and other areas.

### 490. Laboratory in Child Psychology (1 cr) Prereq: Parallel enrollment in PSYC 489.

Demonstrations and exercises in child psychology in laboratory or community settings.

### 496. Practicum in Keller Plan Instruction III (3-4 cr, max 4)

Prereq: PSYC 296 and permission of Keller Plan instructor. *Pass/No Pass is not allowed.*

Work one-to-one with the students in PSYC 296 and 396 in the context of a Keller Plan introductory psychology course.

### 497. Experiential Learning in Psychology II (1-24 cr) Prereq:

Junior standing; prior arrangement with and permission of individual faculty member. *Pass/No Pass only.*

Experience within a psychological perspective in a variety of off-campus settings.

### 498. Special Topics in Psychology (1-24 cr) Prereq: Variable, including permission.

### 499. Independent Study in Psychology II (1-24 cr) Prereq:

Junior standing; prior arrangement with and permission of individual faculty member.

Psychological research or reading.

### 899. Masters Thesis (6-10 cr)

Refer to the Graduate Bulletin for 900-level courses.

## Public Policy Analysis and Program Evaluation

### (Certificate Program)

**Coordinator and Chief Adviser: John Comer (political science), 509 Oldfather Hall**

**Core Faculty:** Blake, Krone, Michaels, Smith

## Principles and Requirements for the Public Policy Analysis Certificate

The program trains students to analyze systematically and coherently public policies, negotiate multiple and competing interests, and develop in-depth knowledge and application in substantive policy issues.

1. **First Level** courses cover the theories, processes, models, and methods of policy analysis. (6 cr; both courses required)

POLS 235. Public Policy Concepts & Processes (3 cr)

POLS 236. Public Policy Analysis: Methods & Models (3 cr)

2. The **Second Level** course examines the interpersonal, interagency and inter-group negotiation processes within which policy making occurs. (3 cr)

COMM 211. Intercultural Communication (3 cr)

COMM 371. Communication in Negotiation & Conflict Resolution (3 cr)

COMM 375. Theories of Persuasion (3 cr)

POLS 261. Conflict & Conflict Resolution (3 cr)

3. **Third Level** courses apply models, methods, and the understanding of the policy process in substantive policy arenas. Students consult with the policy certificate coordinator to create a specialized plan of study for this level. (6 cr)

4. **Fourth Level** Internship (3 cr; capstone experience). Students intern in a governmental or nonprofit agency relating to their area of interest or expertise. The internship generally occurs after completing or during the last semester of course work for the certificate.

The political science undergraduate adviser as well as the policy certificate coordinator will help students find an appropriate policy-relevant internship. Academic requirements for the internship will be set by the certificate coordinator; however, the student can register for internship credit through political science or their major department.

**TOTAL: 18 cr**

## Sociology

**Chair:** Dan R. Hoyt, 711 Oldfather Hall

**Professors:** Carranza, Deegan, Hoyt, Moore, Whitbeck, Whitt, Williams

**Associate Professors:** Dance, McQuillan, Tyler

**Assistant Professors:** Ceballos, Cheadle, Falcí, Goosby, Hagewen, Kort-Butler, Olson, Schwadel, Smyth

**Assistant Professor of Practice:** Wortmann

Students considering a major in sociology should consult with the chief adviser of the department before registering for their first classes. This is particularly important because the subjects that lay the foundation for later training in sociology, plus the courses for a minor, should be carefully selected.

This department participates in the programs of the Institute for International Studies, the Institute for Ethnic Studies, Environmental Studies, the Center for Great Plains Studies, and the Women's and Gender Studies Program.

One course in rural sociology, AECN 276, may count toward a major in sociology. Students in the College of Agriculture who have taken AECN 276 may substitute the course for SOCI 101 if they plan to take other courses in the Department of Sociology.

**Pass/No Pass.** Students majoring in this department may not take courses in the major for Pass/No Pass credit with the possible exceptions of independent study, 3 credit hours of field work in sociology, and hours in excess of those required for the major. Request forms are available in the Arts and Sciences Advising Center, 107 Oldfather Hall.

## Requirements for the Major in Sociology

- 30 hours, including SOCI 101, 205, 206, 355, and a significant research experience. The research experience requirement may be met in any of the following ways: 1) SOCI 399H; 2) SOCI 495; 3) SOCI 310A and 310B; or 4) SOCI 396. At least 12 hours must be taken at the 300 or 400 level. No more than 6 hours total from internship and independent study courses, SOCI 397 and 399, may be counted toward the major requirements in sociology.

**Program Assessment.** In order to assist the department in evaluating the effectiveness of its programs, majors will be required to complete an exit survey during the course of the senior seminar. The instructor will inform the students of the scheduling and format of the survey.

Results of participation in these assessment activities will not affect a student's GPA or graduation in any way.

## Requirements for the Minor in Sociology

- 18 hours including SOCI 101. No more than 3 hours total from internship and independent study courses, SOCI 397 and/or independent study 399 may count toward the minor requirements in sociology.

**Graduate Work.** The advanced degrees of master of arts and doctor of philosophy are offered. For details of these programs, see the *Graduate Studies Bulletin* and the departmental bulletin, *Sociology Graduate Program Guidelines*, available at 711 Oldfather Hall.

## Courses of Instruction (SOCI)

(ACE 6) [ES][IS] 101. **Introduction to Sociology** (3 cr) *Students who have previously taken SOCI 100 or 153 may not receive credit for SOCI 101.*

Introduction to the sociological study of human behavior, especially social organization, culture, and the social institutions that comprise society. Attention to social change, differentiation and inequality, and other social issues.

[ES] 170. **Introduction to Great Plains Studies** (ANTH, GEOG, GPSP, NRES 170) (3 cr) *Required for Great Plains Studies majors and minors.*

For course description, see GPSP 170.

[ES][IS] 182. **Alpha Learning Community Freshman Seminar** (3 cr) *Requires enrollment in the Alpha Learning Community Program. SOCI 183 is normally taken in the next term.* Topic varies.

[ES][IS] 183. **Alpha Learning Community Freshman Seminar** (3 cr) *Prereq: SOCI 182. Requires enrollment in the Alpha Learning Community Program.* Topic varies.

(ACE 9) [ES][IS] 189H. **University Honors Seminar** (3 cr) *Prereq: Admission to the University Honors Program or by invitation. University Honors Seminar 189H is required of all students in the University Honors Program.* Topics vary.

[ES] 198. **Special Topics** (3 cr) Wide range of different topics at the undergraduate level.

(ACE 9) [ES][IS] 200. **Women in Contemporary Society** (3 cr) *Interdisciplinary examination of the contributions of women to society and societal attitudes toward women. Roles and values of women in contemporary society. Lecture, discussion, special problems.*

(ACE 6, 9) [ES] 201. **Social Problems** (3 cr) *Prereq: 3 hrs of sociology or related social sciences.* Treatment of the principal "problem" areas in contemporary society. Analysis of processes of disorganization in society, with attention to contrasting processes by which social structures are formed and perpetuated.

[ES] 205. **Introduction to Social Research I** (3 cr) *Prereq: 3 hrs sociology or related social sciences. SOCI 205 and CRIM 251 cannot both be applied toward the degree in arts and sciences.* Introduction to the techniques of collecting and analyzing data and techniques of research reporting. Emphasis on interpretation and evaluation of sociological research.

(ACE 3) [ES] 206. **Introduction to Social Research II** (3 cr) *Prereq: SOCI 205.* Practical exercises in the actual conduct of sociological research projects. Emphasis on training and development of skills, techniques, and methods of data analysis, and interpretation of findings in light of sociological theories.

(ACE 6) [ES] 209. **Sociology of Crime** (3 cr) *Prereq: 3 hrs of sociology or related social sciences. CRIM 335 and SOCI 209 cannot both be applied toward the degree.* Introduction to the sociological approach to the study of crime, including the definition of crime, approaches to its measurement, and the major theories of crime. Social institutions intended to prevent or correct criminal behavior.

[ES][IS] 210. **Drugs and Society** (3 cr) *Prereq: 3 hrs of sociology or related social sciences.* Patterns and effects of psychoactive drug use. Analysis of drug abuse; drug education, treatment, and research; public perceptions of drug use and users; the alcohol, tobacco, and pharmaceutical industries; governmental regulation of drugs; and the politics of drug use. Historical and cross-cultural perspective.

(ACE 6, 9) [ES][IS] 217. **Nationality and Race Relations** (ETHN 217) (3 cr) *Prereq: 3 hrs sociology or related social sciences.* Concepts of race and patterns of race distribution. Impact of European expansion on ethnic relations. Types of ethnic social systems. Patterns of ethnic social interaction. Problems of minorities. Types of ethnic policies.

[ES] 218. **Chicanos in American Society** (ETHN 218) (3 cr) *Introduction to one of the largest minority groups in the United States-Chicanos (Mexican Americans). Primary consideration given to the history and present status of Chicanos with emphasis on their interaction with various social institutions.*

(ACE 6, 9) [ES] 225. **Marriage and the Family** (3 cr) *Prereq: 3 hrs of sociology or related social sciences.* Historic marriage and family patterns. American family, past and present. Husband-wife relationships. Parent-child relationships. Family-society relationships.

[ES] 241. **Rural Sociology** (AECN 276) (3 cr) *Prereq: 3 hrs of sociology or related social sciences.* For course description, see AECN 276.

[ES] 242. **Urban Sociology** (3 cr) *Prereq: 3 hrs of sociology or related social sciences.* Rise of the modern city; patterns of urban growth; demographic, distributive, ecological aspects of the city; institutional and regional tendencies and problems; urban-regional planning.

[ES] 261. **Conflict and Conflict Resolution** (ANTH, POLS, PSYC 261) (3 cr)  
For course description, see POLS 261.

[IS] 310A. **Doing Sociology: Community-based Research I** (3 cr) Prereq: SOCI 101 and 205, or permission. SOCI 206 recommended.

Research methods organized around an applied research project. Conduct research in an applied setting, preparation of interview schedules, problem definition, review of research techniques, and research design and measurement.

[IS] 310B. **Doing Sociology: Community-based Research II** (3 cr) Prereq: SOCI 310A. SOCI 206 recommended.  
Continuation of SOCI 310A.

**311. Sociology of Juvenile Delinquency** (3 cr) Prereq: 6 hrs of sociology or related social sciences. CRIM 337 and SOCI 311 *cannot both be applied toward the degree*.

Nature and extent of juvenile delinquency, considered in relation to the role of adolescents in modern society. Includes a review of the methods used to study delinquency, theories of delinquency, social influences on delinquent behavior, and the nature of the juvenile justice system.

[ES][IS] 320. **Sociology of Sport** (3 cr) Prereq: 6 hrs of sociology or related social sciences.

Social, cultural, political, and economic aspects of sport as a social institution. Gender, race, and social class issues related to sport.

[IS] 355. **Theory and Intensive Writing** (3 cr) *Intensive writing activity leading to a social research paper.*

Survey of nineteenth and twentieth century writers whose ideas have had a strong impact on the development of contemporary sociology and sociological theory, ranging from Karl Marx, Max Weber and Emile Durkheim to W.E.B. DuBois, Patricia Hill Collins and Harold Garfinkle.

**396. Research Experience** (1-6 cr, max 6) Ind. Prereq: Major or minor in sociology; SOCI 205 and 206; SOCI 355 or 455; and permission.

Participation in a research project under the supervision of an experienced researcher in the Department of Sociology, the Bureau of Sociological Research, or a public agency or private enterprise (e.g., the Gallup Organization) engaged in sociological research.

**397. Field Work in Sociology** (1-4 cr) Prereq: Sociology major or minor, 9 hrs sociology, and permission. *Students should see chief undergraduate adviser for details.*

Field work in public or other organizations.

**398. Special Topics** (3 cr) Prereq: As announced by department. Wide range of different topics at the undergraduate level.

**399. Advanced Readings** (1-24 cr, max 24) Prereq: Senior standing or especially qualified junior; and permission.

Special readings on selected topics; investigations in library or field.

**399H. Honors: Advanced Readings** (1-4 cr) Prereq: Open to candidates for degrees with distinction, with high distinction, and with highest distinction in the College of Arts and Sciences and to seniors and especially qualified juniors, with permission. Special readings on selected topics; investigations in library or field.

**407/807. Strategies of Social Research: Qualitative Methods** (3 cr)

Systematic review and application of qualitative research methods, including participant observation, unstructured interviewing, audiovisual techniques and personal document analysis; data collection and interpretation emphasized as well as different theoretical assumptions underlying their various approaches.

**415/815. Social Change** (3 cr) Prereq: 9 hrs sociology or related social sciences.

Analysis of sociological principles of social change at both the community and primary group level; analysis of research and theoretical literature.

**425/825. Contemporary Family Issues** (3 cr) Prereq: 9 hrs sociology or related social sciences

Contemporary issues confronting American families and family research. Adolescent pregnancy, work-family policy, family violence, divorce, single parents, and step families.

**435/835. Mass Communication** (3 cr) Prereq: 9 hrs sociology or related social sciences.  
Analysis of the structure and effects of the media of mass communication.

**441/841. Social Psychology** (3 cr) Prereq: 9 hrs sociology or related social sciences.  
Psychosocial bases of group behavior, inter-stimulation, and behavioral products.

**442/842. Personality and Social Structure** (3 cr) Prereq: 9 hrs sociology or related social sciences.  
Personality and the sociocultural environment.

[ES][IS] **444/844. Social Demography** (3 cr) Prereq: 9 hrs sociology or related social sciences.

Historical and cross-cultural approach to population issues by linking changes in fertility and mortality to social institutions. Focuses on the link between population processes and such issues as gender roles, the role of the family, the Third World, and poverty and inequality.

**445/845. Sociology of Urban Areas** (3 cr) Prereq: 9 hrs sociology or related social sciences.  
Trends in urbanization that incorporate demography, ecology, and planning. Selected urban problems.

**446/846. Environmental Sociology** (3 cr) Prereq: 9 hrs sociology or related social sciences or permission.

Role of humans in the ecosystem, especially the interaction of human societies with the natural environment, including other species and other human societies. Theories of the sociocultural causes of environmentally-related problems and the policies designed to deal with these problems.

[ES][IS] **448/848. Family Diversity** (ETHN 448/848) (3 cr) Prereq: 9 hrs sociology or related social sciences.

Analyzes diversity in family structure and family choices. Includes rural families, gay/lesbian families, Native American families, African American families, Latino families, working class and working poor families and cohabitation.

**449/849. Family Research and Theory** (3 cr) Prereq: 9 hrs sociology or related social sciences.

Contemporary theory and research dealing with family structure and change. Focuses on family systems that characterize different social classes and various ethnic groups in our society. Selected problems and contemporary research emphasized.

**450/850. Social Institutions** (3 cr) Prereq: 9 hrs sociology or related social sciences.

Analysis of means of social control, with emphasis upon social institutions.

**452/852. Sociology of Religion** (3 cr) Prereq: 9 hrs sociology or related social sciences.

Consideration of sources and nature of religion, drawing on contributions of anthropologists, sociologists, psychologists, and others. Emphasis on interaction of religion and society.

[IS] **453/853. Sociology of Health and Health Professions** (3 cr) Prereq: 9 hrs sociology or related social sciences.

Social and cultural bases of health and illness. Social factors in the definition of illness and in the organization and distribution of health care.

**455/855. History of Sociological Theory** (3 cr) Prereq: 9 hrs sociology or related social science.

Survey of the nineteenth and early twentieth century writers whose ideas have had a strong impact on the development of contemporary sociology and sociological theories. Emphasis on the work of such persons as Karl Marx, Emile Durkheim, Max Weber, George Herbert Mead, and Georg Simmel.

[ES][IS] **460/860. Education and Society** (3 cr) Prereq: 9 hrs sociology or related social sciences.

Analysis of education as a social institution and its relationship to other institutions, e.g., economy, polity, religion, and the family. Emphasizes the role of the educational institution as an agent of stability and change. Emphasis on research and policy evaluation.

**462/862. Advanced Social Research Methods** (3 cr) Lec 3. Prereq: SOCI 101, 205 and 206; and permission.

The logic and design of sociological research: the nature of science and logic of social inquiry; epistemic relations; design of research problems; data collection techniques and sampling.

**463/863. Quantitative Methods of Social Research I** (SRAM \*863) (3 cr) Lec 3. Prereq: SOCI 101, 205 and 206; and permission.

The logic and techniques of sociological analysis: techniques of scaling and index construction; contingency table analysis; measures of association; parametric and nonparametric statistical inference; and generalizations from systematic findings.

**464/864. Sociological Theory** (3 cr) Prereq: 9 hrs sociology or related social sciences.

The conceptual structures of selected theorists and of the basis of theory construction and testing.

**465/865. Survey Design and Analysis** (3 cr) Prereq: For SOCI 465: SOCI 205 and 206. For SOCI 865: None.

Basic issues related to the design and analysis of sample surveys. The basics of questionnaire construction, sampling, data collection, analysis and data presentation.

**466/866. Pro-seminar in International Relations I** (AECN \*467; ANTH, HIST 479/879; ECON, POLS 466/866; GEOG 448/848) (3 cr) Prereq: Permission. *Open to students with an interest in international relations.*

For course description, see POLS 466/866.

**468/868. Policy and Program Evaluation Research** (POLS 417/817) (3 cr) Prereq: 6 hrs social sciences.

For course description, see POLS 417/817.

**470/870. Sociology of Occupations and Professions** (3 cr) Prereq: 9 hrs sociology or related social sciences.

Presentation of frameworks for occupations and professions; analysis of occupational structure and mobility in American society and its relation to adult socialization and career development; occupational and professional associations and society.

**471/871. Human Sexuality and Society** (EDPS, CYAF, PSYC 471/871) (3 cr) Prereq: Junior standing and 12 hrs in one of the departments in which the course is listed. *Open to advanced students planning careers in the professions in which knowledge of human behavior and society is important (e.g., helping professions, medicine, law, ministry, education, etc.).*

For course description, see PSYC 471/871.

**474/874. Sociology of Deviance** (3 cr) Prereq: 9 hrs sociology or related social sciences. CRIM 413 and SOCI 474 *cannot both be applied toward the degree.*

Theory and empirical research on conformity and deviance.

Survey of the development of scholarly thinking on the nature and sources of deviance, societal reactions to deviance, and processes of social control.

(ACE 10) **475/875. Water Quality Strategy** (AGRO, CRPL, CIVE, GEOL, MSYM, NRES, POLS 475/875; SOIL, WATS 475) (3 cr II) Prereq: Senior standing or permission.

For course description, see AGRO 475/875.

[IS] **478/878. Pro-seminar in Latin American Studies** (LAMS 478; ANTH, GEOG, HIST, MODL, EDPS, POLS 478/878) (3 cr, max 6) Prereq: Junior standing and permission. *Topical seminar required for all Latin American Studies majors.*

For course description, see ANTH 478/878.

**480/880. Social Inequality: Stratification and Life Chances** (3 cr) Prereq: 9 hrs sociology or related social sciences.

Structured inequalities, including social class, race/ethnicity, gender and age stratification. The intersections of these as institutionalized inequalities examined for their causes and effects on individuals and groups. Emphasis on the role of social power, economic resources and occupational structures in the nature of inequality and social mobility in the United States.

**481/881. Minority Groups** (ETHN 481/881) (3 cr) Prereq: 9 hrs sociology or related social sciences.

Systematic examination of racial, ethnic, and other minority groups. History and present status of such groups, the origins of prejudice and discrimination, and the application of social science knowledge toward the elimination of minority group problems.

**490/890. Sociology of Women** (3 cr) Prereq: 9 hrs social sciences. SOCI 200 is strongly recommended.

Evaluation and application of scholarly theory and research on women in their societal context. The nature and effects of sex stratification, gendered culture, institutionalized sexism, feminist theory and sociology of knowledge.

**491/891. Political Sociology** (3 cr) Prereq: 9 hrs sociology or related social sciences.

Application of sociological analysis to the problem of power; power structures and elite formation as they relate to democratic society and political extremism.

(ACE 10) [IS] **495. Senior Seminar** (3 cr) Prereq: Senior standing; sociology major. It is recommended that SOCI 205, 206, and 455 be completed prior to taking the SOCI 495.

A senior-level overview of the discipline of sociology, including theory, methods, and substantive areas. Current monographs critically analyzed. The development of sociology, new directions in the discipline, and careers for sociologists.

[ES][IS] **496/896. Special Topics in Crime, Deviance, and Social Control** (3 cr) Prereq: Varies. See course description or registration guide. *Topic for the term announced prior to early registration.* Variety of topics in crime, deviance, and social control.

**498/898. Special Topics** (3 cr) Prereq: Varies. See course description or registration guide. *Topic for the term announced prior to early registration.*

Wide variety of different topics.

**899. Masters Thesis** (6-10 cr)

Refer to the Graduate Bulletin for 900-level courses.

## Speech-Language Pathology and Audiology

**Chair:** John Berenthal, 301 Barkley Memorial Center

The program in Speech-Language Pathology and Audiology is housed in the Department of Special Education and Communication Disorders in the College of Education and Human Sciences. The program offers both a bachelor of arts degree and a bachelor of science degree through the College of Arts and Sciences and a bachelor of science degree through the College of Education and Human Sciences. Both degrees provide the preprofessional courses required for graduate study in either speech-language pathology or audiology. The entry level for practice as a speech-language pathologist requires a masters degree, and a doctorate of audiology to practice as an audiologist. For information on programs leading to degrees and for a detailed description of courses required, please see the College of Education and Human Sciences section of this bulletin.

**Pass/No Pass.** Six or less Pass/No Pass credit hours may be accepted in major area course work.

## Requirements for the Major in Speech-Language Pathology and Audiology

- 55 to 56 hours (need overall minimum major GPA of B/3.0): SLPA 150, 250, 251, 271, 397A (1 hr); 421, 441, 452, 455, 456, 461, 464, 472; STAT 218, SPED 400 and SLPA 454; biological sciences anatomy (5 hrs) or human physiology (4 hrs) and a physical science (3 hr min).
- Teacher certification in speech-language pathology requires a masters degree with specialization in speech-language pathology, passing scores on the Pre-Professional Skills Test, EDPS 250, 251, or CYAF 160, EDPS 362 and SLPA 488 or TEAC 330 or the graduate-level equivalents. Completion of a masters degree with specialization in speech-language

pathology and a passing score on the speech-language pathology Praxis national certification exam is required for state licensure and/or public school certification in speech-language pathology and a doctor of audiology degree with specialization in audiology and a passing score on the audiology Praxis national certification exam for state licensure in audiology.

## Statistics

**Head:** Walter Stroup, 340 Hardin

**Professors:** Eskridge, Kachman, Ladunga, Marx, McCutcheon, Parkhurst, Stroup

**Associate Professor:** Bilder, Blankenship, Zhang

**Assistant Professors:** Hanford, Roy, Soulakova, Wang

Statistics is the science of data collection, classification, analysis and interpretation. It has evolved into a core discipline for a well-rounded liberal arts education, and is of central importance to nearly all of the biological, physical and social sciences. The Department of Statistics offers introductory courses to acquaint students from all disciplines with the essential elements of statistical thinking. STAT 218 can be taken to satisfy the ES requirement in mathematics and statistics.

The department also offers a minor in statistics. The minor is a useful complement for many majors. In addition, the minor provides background beneficial for graduate study in statistics. Career opportunities for statisticians with masters and doctoral degrees abound in industry, government and education. Employers include pharmaceutical, health and medical organizations, quality improvement in manufacturing and service, marketing and opinion research, credit and security risk analysis, agribusiness, various governmental agencies including Environmental Protection, Food and Drug Administration, Departments of Census, Energy, Agriculture, and Homeland Security, and emerging fields ranging from bioinformatics to statistical applications in sports.

## Requirements for the Minor in Statistics

- STAT 462 and 463 and at least 12 hours from the following: STAT 380, 412, 414, 450, 494, or 496. Alternative classes may be substituted if approved by the Department of Statistics curriculum committee.

Classes taken for a minor in statistics may not be taken Pass/No Pass.

**Graduate Work.** The following advanced degrees are offered: master of science and doctor of philosophy in statistics. For details, see the *Graduate Bulletin*.

## Courses of Instruction (STAT)

(ACE 3) [ES][IS] **218. Introduction to Statistics** (3 cr) Lec 3. Prereq: Removal of all entrance deficiencies in mathematics. *Credit toward the degree may be earned in only one of: CRIM 300 or ECON 215 or EDPS 459 or SOCI 206.*

The practical application of statistical thinking to contemporary issues; collection and organization of data; probability distributions; statistical inference; estimation; and hypothesis testing.

**318. Introduction to Statistics II** (3 cr) Lec 3. Prereq: STAT 218 or equivalent.

Tests for means/proportions of two independent groups, analysis of variance for completely randomized design, contingency table analysis, correlation, single and multiple linear regression, nonparametric procedures, design of experiments.

(ACE 3) **380. Statistics and Applications** (MATH 380) (3 cr)

Prereq: MATH 107 or 107H. *Credit toward the degree cannot be earned in STAT 218 if taken after or taken in parallel with STAT/MATH 380.*

Probability calculus; random variables, their probability distributions and expected values; *t*, *F* and chi-square sampling distributions; estimation; testing of hypothesis; and regression analysis with applications.

**412. Introduction to Experimental Design** (3 cr) Prereq: STAT 380.

Survey of elementary experimental designs and their analyses completely randomized, randomized block, factorial, and split-plot designs.

**414. Introduction to Survey Sampling** (3 cr) Prereq: STAT/MATH 380 or IMSE 321 or permission.

Sampling Techniques: simple random sampling, sampling proportions, estimation of sample size, stratified random sampling, ratio and regression estimates.

**430/830. Sensory Evaluation** (FDST 430/830) (3 cr I) Lec 2, lab 3. Prereq: Introductory course in statistics. *Offered fall semester of odd-numbered calendar years*

For course description, see FDST 430/830.

**432. Introduction to Spatial Statistics** (3 cr) Lec, lab. Prereq: STAT 218 or equivalent.

Spatial point patterns, test of randomness, Morans I statistic and similar measures, checking assumptions for independence of observations, variography, estimation (point and global), Kriging, nearest neighbor techniques, cokriging, mixed models and their role in designed spatial experiments.

**450. Introduction to Regression Analysis** (3 cr) Prereq: STAT/MATH 380 or IMSE 321, and knowledge of matrix algebra. General linear models for estimation and testing problems, analysis and interpretation for various experimental designs.

**462. Introduction to Mathematical Statistics I: Distribution Theory** (3 cr) Prereq: MATH 208 or 107H. STAT 380 or equivalent is strongly recommended.

Sample space, random variable, expectation, conditional probability and independence, moment generating function, special distributions, sampling distributions, order statistics, limiting distributions, and central limit theorem.

**463. Introduction to Mathematical Statistics II: Statistical Inference** (3 cr) Prereq: STAT 462.

Interval estimation; point estimation, sufficiency, and completeness; Bayesian procedures; uniformly most powerful tests, sequential probability ratio test, likelihood ratio test, goodness of fit tests; elements of analysis of variance and nonparametric tests.

**494. Topics in Statistics and Probability** (1-5 cr, max 24) Prereq: Permission.

Special topics in either statistics or the theory of probability.

**496. Independent Study** (1-5 cr, max 5) Prereq: Prior arrangement with a faculty member and submission of proposed study plan to department office.

**801. Statistical Methods in Research** (4 cr I, II) Lec 3, lab 2. Prereq: Introductory course in statistics.

**802. Experimental Design** (4 cr I, II) Lec 3, lab 2. Prereq: STAT 801.

**804. Survey Sampling** (3 cr) Prereq: STAT 880 or IMSE 321 or permission.

**831. Spatial Statistics** (3 cr) Prereq: MATH 821 and 822.

**832. Statistics in Sports** (3 cr) Prereq: MATH 821 and 822.

**841. Statistical Methods for Microarray and Related Technologies** (3 cr) Prereq: STAT 801 or equivalent.

**842. Computational Biology** (3 cr) Lec 1.5, lab 3. Prereq: A course in BIOC, BIOS, or genetics is recommended.

**870. Multiple Regression Analysis** (3 cr) Prereq: STAT 801, 802.

873. Applied Multivariate Statistical Analysis (3 cr I) Lec 3. Prereq: STAT 801 or equivalent.

874. Nonparametric Statistics (3 cr) Prereq: STAT 801 or 880.

875. Categorical Data Analysis (3 cr) Prereq: STAT 801 or equivalent.

880. Introduction to Mathematical Statistics (3 cr) Prereq: MATH 208 or 107H and STAT 218 or equivalent or permission of instructor. *STAT 880 is not open to MA or MS students in MATH or STAT.*

882. Mathematical Statistics I: Distribution Theory (3 cr) Prereq: MATH 208 or 107H; STAT 380 or equivalent is strongly recommended.

883. Mathematical Statistics II: Statistical Inference (3 cr) Prereq: STAT 882.

884. Applied Stochastic Models (3 cr) Prereq: STAT/MATH 380 or IMSE 321 or equivalent.

889. Statistics Seminar (1 cr) Prereq: Permission.

892. Topics in Statistics and Probability (1-5 cr per sem, max 24) Prereq: Permission.

898. Statistics Project (1-5 cr) Prereq: Permission.

899. Masters Thesis (1-6 cr) Prereq: Permission.

Refer to the Graduate Bulletin for 900-level courses.

## Textiles, Clothing and Design

(Minor only)

**Coordinator:** Arts and Sciences Advising Center, 107 Oldfather Hall

### Requirements for the Minor in Textiles, Clothing and Design

**Plan B. (15 hours)**

TXCD 123. Clothing & Human Behavior (3 cr)

TXCD 206. Textiles (3 cr)

TXCD 213. Merchandising I (3 cr)

Select 6 hours from the following:

TXCD 405. Advanced Textiles (3 cr)

TXCD 407. History of Costume (3 cr)

TXCD 408. History of Textile (3 cr)

TXCD 410. Social-Psychological Aspects of Dress (3 cr)

## University Studies Program

**Director and Chief Adviser:** Jessica Coope, 1223 Oldfather Hall

**Faculty:** Brooke (English), Forsythe (political science), Loefferts (music), Lindsley-Griffith (geosciences), Neal (art and art history), Wishart (anthropology and geography), Woodward (mathematics)

The University Studies Program permits students whose career or educational goals cannot be achieved through listed majors to develop individual degree programs (BA and BS) in the Colleges of Arts and Sciences and of Fine and Performing Arts. Programs will be made up primarily of courses selected from those regularly offered by the two colleges and by other colleges at UNL but may also contain credit for independent projects,

internships, life experiences, or educational programs not otherwise transferable to the University of Nebraska. Programs will follow the spirit of liberal education, even when they do not fulfill the specific liberal education requirements.

Students should consult the Director or a member of the University Studies faculty before making application. The application takes the form of a letter to the University Studies faculty presenting an appropriate educational and personal history, a justification of the focus of the proposed program, and a tentative listing of courses. Admission will be approved for applicants who present evidence of strong motivation and a capacity to pursue independent work, and who offer a rigorous and balanced program suited to carefully defined aims.

For further information, see Associate Dean Goodburn, 1223 Oldfather Hall.

## Courses of Instruction (USTD)

295. University Studies (1-24 cr) Prereq: Permission.

395. University Studies (1-24 cr) Prereq: Permission.

495. University Studies (1-24 cr) Prereq: Permission.

## Women's and Gender Studies

**Director and Co-Adviser:** Margaret Jacobs, 327 Seaton Hall, 472-9300

**Chief Adviser:** Rose Holz, 317A Seaton Hall, 472-9380

**Faculty:** Draper, Sanchez, Wandsnider (anthropology); Kuska (architecture); Fuller, Mamiya, Stewart (art and art history); Brand (chemical engineering); Crawford, Duncan, Lahey (classics and religious studies); May (economics); Davidson (educational psychology); Bauer, Belasco, DiBernard, Dreher, Foster, Gannon, Goodburn, Homestead, Honey, Montes, Nissé, Pratt, Raz, Ritchie, Schleck, Vigil (English); Holmes (geosciences); Akers, Curry, Holz, Jacobs, Jones, Kleimola, Levin, Smith (history); Poser, Shavers (law); Hines (mathematics); Balasubramanian, Brantner, Carr, González-Allende, Kalisa (modern languages and literatures); McKittrick (philosophy); Deegan, Lehmann, McQuillan, Moore, Wortmann (sociology); Heaton, Latta, Raible, Sarroub (teaching, learning, teacher education); James, McLeod, Weiss (textiles, clothing and design); Lyons (University Honors Program); Panigabutra-Roberts (University Libraries)

**Campus/Community Associate:** Tetrault

The Women's and Gender Studies (WGS) major is a multidisciplinary academic program with courses that focus on knowledge relating to women and gender.

The program is designed to help students to learn about historical and contemporary contributions of women and to analyze the construction and representation of gender in the arts, literature, history, psychology, education, contemporary culture, politics, and society. Students are challenged to critically examine assumptions about women and gender held by academic disciplines and to evaluate them based on current research and individual experience. Students also explore sex roles, gender systems, and sexuality in various cultures as they change over time.

## Requirements for the Major in Women's and Gender Studies

All majors must consult with an adviser from the program. A student may pursue either Option A or Option B.

**Option A.** 36 hours from required courses and course listings.

**Option B.** 30 hours from required courses and course listings, and at least 18 hours in a related minor to be determined in consultation with the WGS chief adviser.

All majors must fulfill the following requirements:

### Core Courses (9 credits)

WMNS 101. Intro to Women's & Gender Studies  
WMNS 400. Senior Seminar  
WMNS 485. Feminist Theories, Feminists' Perspectives

### History Courses (6 credits)

HIST/WMNS 225. Women in History  
\*HIST/WMNS 242. Native American Women  
HIST/WMNS 329. Women in European History  
HIST/WMNS 402. Sexuality in 19th & 20th Century America  
HIST/WMNS 436. Saints, Witches, and Madwomen  
HIST/WMNS 441. Women & Gender in the USA  
\*HIST/WMNS 448. History of Women & Gender in the American West  
\*HIST/WMNS 456. Black &/or African-American Women's History  
\*\*WMNS 201. Intro to LGBT/Sexuality Studies

### Literature/Rhetoric and other Humanities Courses (6 credits)

\*ENGL/WMNS 212. Intro to Lesbian & Gay Literature  
ENGL/WMNS 215. Intro to Women's Literature  
ENGL/WMNS 239B. Women Filmmakers  
\*ENGL/WMNS 244B. Black Women Authors  
\*ENGL/WMNS 245N. Native American Women  
ENGL/WMNS 253A. Women & Poetry  
ENGL/WMNS 315A. Survey of Women's Literature  
ENGL/WMNS 315B. Women & Popular Culture  
\*ENGL/WMNS 414B. Modern & Contemporary Women Writers  
ENGL/WMNS 475A. The Rhetoric of Women Writers  
JUDS/RELG/WMNS 340. Women in the Biblical World  
PHIL/WMNS 218. Philosophy of Feminism  
\*\*WMNS 201. Intro to LGBT/Sexuality Studies

### Social Sciences Courses (6 credits)

ANTH/WMNS 410. Women & Men: An Anthropological Perspective  
COMM 380. Gender & Communication  
CRIM 339. Women, Crime, & Justice  
ECON/WMNS 375. Women & Work in the US Economy  
POLS 281. Challenges to the State (*depends on instructor*)  
POLS/WMNS 338. Women & Politics  
POLS 386. Truth & Progress (*depends on instructor*)  
PSYC/WMNS 421. Psychology of Gender  
SOCI 200. Women in Contemporary Society

SOCI 490. Sociology of Women  
 TXCD 410/WMNS 410A. Socio-psychological Aspects of Clothing  
 \*\*WMNS 201. Intro to LGBT/Sexuality Studies

**Electives (3-9 credits from the above list or any of the additional elective courses listed below):**

ANTH/WMNS 408. Cross-Cultural Mentoring I

ANTH/WMNS 409. Cross-Cultural Mentoring II

ARCH 481. Women in Design

TXCD 325. Woven & Nonwoven Textile Design  
*(depends on instructor)*

TXCD 407. History of Costume *(depends on instructor)*

WMNS 210. Activism & Feminist Communities  
 WMNS/AGRI/NRES 385. Women, Gender & Science

WMNS 399. Independent Study

WMNS 399H. Honors Thesis *(up to 6 credits)*

WMNS 497. Internship in Women's & Gender Studies

WMNS 498. Special Topics in Women's & Gender Studies

\* Courses that fulfill diversity requirement

\*\* This class may count for only one of the three areas.

- Students must take at least 6 hours of courses that fulfill our diversity requirement beyond the core courses. This requirement promotes our objectives to critically examine cultural assumptions about gender, race/ethnicity, class, sexuality, and other sources of identity; and enrich students' understanding of the diversity of women's experiences and perspectives.

- Students must take 12 hours of courses at the 300 level or above.

**Program Assessment.** In order to assist the department in evaluating the effectiveness of its programs, majors will be required:

1. To submit for assessment a copy of the research project completed in the senior seminar. The instructor will inform students of deadlines and format.

2. In their last semester, to participate in an exit interview.

The undergraduate adviser will inform students of the scheduling and format of the interview.

Results of participation in these assessment activities will in no way affect a student's GPA or graduation.

**Requirements for the Minor in Women's and Gender Studies**

- 18 hours of courses in the Women's and Gender Studies Program, including:

WMNS 101 Intro to Women's & Gender Studies  
 3 hours each from courses listed under History; Literature/Rhetoric and other Humanities; and Social Sciences

At least 6 hours of courses at the 300 level or above  
 At least 3 hours of courses that fulfill the diversity requirement

**Courses of Instruction (WMNS)**

[ACE 9] [ES][IS] 101. Introduction to Women's and Gender Studies (3 cr) Lec 3.

Personal, interpersonal and institutional dimensions of women's experiences from a variety of perspectives.

[ES][IS] 189H. University Honors Seminar (3 cr) Prereq: Good standing in the University Honors Program or by invitation. *University Honors Seminar 189H is required of all students in the University Honors Program.*  
 Topic varies.

(ACE 9) [ES][IS] 201. Introduction to Lesbian, Gay, Bisexual, Transgender Studies (3 cr) Lec 3.

Interdisciplinary issues related to sexuality and gender, both historical and contemporary.

(ACE 8) [IS] 210. Activism and Feminist Communities (3 cr) Lec 3. *A service learning project is part of WMNS 210.*

Intersection of service learning and activism with feminist theories.

211. Applying Social Justice to LGBTQA Programs and Services (3 cr) Lec 3. Prereq: WMNS 201 or ENGL/WMNS 212. *WMNS 211 requires the completion of a campus or community project.*

Overview of Social Justice Education Theory and its direct application to LGBTQA (Lesbian, Gay, Bisexual, Transgender, Queer, Ally) Programs and Services. Apply elements of social justice education to LGBTQA Programming and Services by learning the social change model of leadership development and by developing and implementing a campus or community project.

(ACE 5, 9) [ES][IS] 212. Introduction to Lesbian and Gay Literature (ENGL 212) (3 cr) Lec 3.

For course description, see ENGL 212.

(ACE 5, 9) [ES][IS] 215. Introduction to Women's Literature (ENGL 215) (3 cr) Lec 3.

For course description, see ENGL 215.

[ES][IS] 218. Philosophy of Feminism (PHIL 218) (3 cr) Lec. For course description, see PHIL 218.

(ACE 9) [ES] 225. Women in History (HIST 225) (3 cr) Lec 3. For course description, see HIST 225.

[ES][IS] 239B. Women Filmmakers (ENGL 239B) (3 cr) Lec 3. For course description, see ENGL 239B.

(ACE 9) [ES][IS] 242. Native American Women (ETHN, HIST 242) (3 cr) Lec 3.

For course description, see HIST 242.

(ACE 5, 9) [ES][IS] 244B. Black Women Authors (ENGL, ETHN 244B) (3 cr) Lec 3. *May not be offered every year.*

For course description, see ENGL 244B.

(ACE 5, 9) [ES] 245N. Native American Women Writers (ENGL 245N) (3 cr) Lec 3.

For course description, see ENGL 245N.

[ES] 253A. Writing of Poetry: Women's Poetry (ENGL 253A) (3 cr) Lec 3. *ENGL/WMNS 253A may not be offered every year.*

For course description, see ENGL 253A.

(ACE 5, 9) [ES][IS] 315A. Survey of Women's Literature (ENGL 315A) (3 cr) Lec 3. *ENGL/WMNS 315A may not be offered every year.*

For course description, see ENGL 315A.

(ACE 9) [ES][IS] 315B. Women in Popular Culture (ENGL 315B) (3 cr) Lec 3.

For course description, see ENGL 315B.

[ES] 329. Women in European History (HIST 329) (3 cr) Prereq: Sophomore standing or permission.

For course description, see HIST 329.

[ES][IS] 338. Women and Politics (POLS 338) (3 cr) Lec 3.

For course description, see POLS 338.

[ES][IS] 340. Women in the Biblical World (RELG, JUDS 340) (3 cr) Lec 3.

For course description, see RELG 340.

[ES] 375. Women and Work in United States History (ECON, HIST 375) (3 cr) Lec 3.

For course description, see ECON 375.

(ACE 9) [ES][IS] 385. Women, Gender and Science (AGRI, NRES 385) (3 cr)

Historical roles of women as scientists. Societal constructs of gender in science. Feminist critiques of scientific methodology and interpretation.

399. Independent Study (1-6 cr) Arranged.

Individual internship experience, independent scholarship or other appropriate projects with an individual Women's and Gender Studies faculty member.

399H. Honors Thesis (1-6 cr, max 6) Ind. Prereq: Junior standing and permission; Candidate for degree with distinction or high distinction or highest distinction in the College of Arts and Sciences; Good standing in the University Honors Program or by invitation. WMNS 399H is 'Letter grade only.'

(ACE 10) 400. Senior Seminar (3 cr) *Aimed primarily at Women's and Gender Studies majors and minors. Other students may take the course with permission.*

Topic varies. Focus is to integrate a variety of perspectives on Women's and Gender Studies; to tie together diverse materials that the student will have been presented with in the discipline oriented courses.

[IS] 402/802. Sexuality in 19th and 20th Century America (HIST 402/802) (3 cr) Lec 3.

For course description, see HIST 402/802.

[ES][IS] 408/808. Cross-Cultural Mentoring I (ANTH 408/808) (3 cr) Fld. *ANTH/WMNS 408/808 requires weekly meetings with mentee. Pairs UNL student with a refugee and/or immigrant and/or minority K-12 student or adult.*

For course description, see ANTH 408/808.

[ES][IS] 409/809. Cross-Cultural Mentoring II (ANTH 409/809) (3 cr) Fld. Prereq: ANTH/WMNS 408/808. *ANTH/WMNS 409/809 requires weekly meetings with mentee. Continuation of ANTH/WMNS 408/808.*

For course description, see ANTH 409/809.

410/810. Women and Men: An Anthropological Perspective (ANTH 410/810) (3 cr) Lec 3. Prereq: 9 hrs ANTH.

For course description, see ANTH 410/810.

[ES][IS] 410A/810A. Socio-psychological Aspects of Clothing (TXCD 410/810) (3 cr) Lec 3. Prereq: Senior standing; 3 hrs PSYC or SOCI; TXCD 123.

For course description, see TXCD 410/810.

[IS] 414B/814 B. Modern and Contemporary Women Writers (ENGL 414B/814B) (3 cr) Lec 3.

For course description, see ENGL 414B/814B.

[ES][IS] 421/821. Psychology of Gender (PSYC 421/821) (3 cr) Lec 3. Prereq: 12 hrs PSYC.

For course description, see PSYC 421/821.

[IS] 436/836. Saints, Witches, and Madwomen (HIST 436/836) (3 cr) Prereq: Junior standing or permission.

Image of the madwoman throughout European and American history. Emphasis on how women on the margins have been labelled in different periods as saintly, as witches, or as insane.

440/840. Gender and Sexuality in the Ancient World (CLAS 440/840) (3 cr) Lec 3.

For course description, see CLAS 420/820.

[IS] 441/841. Women and Gender in the United States (HIST 441/841) (3 cr) Lec.

For course description, see HIST 441/841.

[IS] 448/848. History of Women and Gender in the American West (HIST 448/848) (3 cr) Prereq: Junior standing.

For course description, see HIST 448/848.

[IS] 456/856. Black and/or African-American Women's History (ETHN 456, HIST 456/856) (3 cr) Lec. Prereq: Junior standing. For course description, see HIST 456/856.

[IS] 475A/875A. **Rhetorical Theory: Rhetoric of Women Writers** (ENGL 475A/875A) (3 cr) Lec 3. For course description, see ENGL 475A/875A.

**485/885. Feminist Theories, Feminists' Perspectives** (3 cr) Lec 3. Prereq: WMNS major or minor. Introduction to feminist and gender theory. Important theoretical frameworks upon which Women's and Gender Studies is based and the implications of these theories in practice.

**497/897. Internship in Women's and Gender Studies** (1-6 cr, max 6) Fld. Prereq: Permission. WMNS 497/897 is Pass/No Pass only. Experiential and service learning designed to deepen understanding of classroom concepts related to study of women and gender in society.

**498/898. Special Topics in Women's and Gender Studies** (2-3 cr, max 6) Lec. Topics vary.

## Pre-Professional Programs and Combined Degree Programs

### Pre-Professional Programs

Many students enter the College of Arts and Sciences intending to pursue studies in a health sciences area or law. Some students declare a major while working toward their professional school requirements and earn a degree from UNL before entering professional school. Some professional programs allow students to enter without ever earning an undergraduate degree. In either case, students may choose a course of study in any of the following preprofessional areas while they are preparing for professional school and/or deciding on a major and degree.

### Combined Degree Program

Students who want to combine their courses in the College of Arts and Sciences with a course in one of the professional colleges of the University in law, medicine, dentistry, or pharmacy may follow a combined program that, if they are accepted to a professional program after three years (minimum 90 hours), leads to the bachelors degree at the end of four years and the professional degree at the completion of the professional program. With law, the combined course is six years. With medicine, dentistry, or pharmacy, the combined course is seven years.

The first year's work in law, medicine, dentistry, or pharmacy in any accredited United States or Canadian college of law, medicine, dentistry, or pharmacy is accepted by the College of Arts and Sciences as the equivalent of the fourth year of work for the bachelors degree as the major, if the student has completed three years of college work before entering the professional program. In these three years of college work, minimum 90 hours, the student must also complete 30 hours in residence (see index for guide to rule on residency), fulfill all general education requirements, Achievement-Centered Education (ACE) and College Distribution Requirements, and complete one Plan A or two Plan B minors. For a BS degree, students must complete the 60 hour scientific base which is comprised of science and math courses.

Pre-Law students who demonstrate exceptional academic ability in three years of undergraduate study must request permission to the College of Arts and Sciences for permission to participate in the combined degree program. For combined degree programs in medicine, dentistry and pharmacy no application to the College of Arts and Sciences is necessary.

Admission to a professional program in law, medicine, dentistry, or pharmacy is not guaranteed at the time of undergraduate admission to the College of Arts and Sciences. The Combined Degree Program is only an option for students who apply and are accepted to a professional program in law, medicine, dentistry or pharmacy after the third year of undergraduate work.

### Pre-Chiropractic

Chiropractic is a branch of health care that focuses on manipulation as the best mode of care and treatment of many injuries and illnesses. It emphasizes the inter-relatedness of the body parts as a whole set, but especially as they relate to the function of the nervous system. Since the majority of the body's organs are innervated by nerves which enter or leave the spine, a major emphasis is on the correct structure and function of the spine and the body joints.

### Pre-Clinical Laboratory Science

Clinical Lab Science (formally Medical Technology) is the allied health profession concerned with performing laboratory tests that are used in the diagnosis, treatment, and prognosis of disease and in the maintenance of health. The clinical lab scientist performs a full range of laboratory tests, from simple pre-marital blood tests to more complex tests to uncover diseases, such as AIDS, diabetes, and cancer. The clinical lab scientist is also responsible for confirming the accuracy of test results and reporting laboratory findings to the pathologist and other doctors.

### Pre-Clinical Perfusion Science

Perfusionists are skilled allied health professionals, qualified by academic and clinical education, who deal with all phases of regulating and controlling blood flow outside the body, called extracorporeal circulation. The perfusionist operates extracorporeal equipment during any medical situation where it is necessary to support, or temporarily replace, the patient's circulatory or respiratory function. The perfusionist has diverse responsibilities which include the mechanical support of a patient's circulation and pulmonary function during open heart surgery and is an integral member of the cardiovascular surgery team involved in infant and adult cardiac surgery.

### Pre-Cytotechnology

Cytotechnology is an allied health specialty which offers exciting possibilities for those who want a career in science and a significant role in health care. Working with a microscope, cytotechnologists study specimens from all body sites. Using subtle clues in the cells themselves, cytotechnologists can solve the mystery of disease by diagnosing cancer, precancerous lesions, benign tumors, infectious agents, and

inflammatory processes. Cytotechnologists help save lives by discovering certain diseases early when treatment is most effective.

### Pre-Dental Hygiene

A dental hygienist is a preventive oral health professional licensed in dental hygiene to provide educational, clinical and therapeutic services supporting total health through the promotion of optimal oral health. The dental hygienist is responsible for providing treatment that helps to prevent oral diseases such as dental caries (cavities) and periodontal disease (gum disease) and for educating the patient to maintain optimal oral health.

### Pre-Dentistry

Dentistry is devoted to maintaining the health of teeth and gums, as well as other hard and soft tissues of the mouth. Early detection of oral cancer and systemic conditions that manifest themselves through the mouth are necessary for the maintenance of general health. The dentist is, in fact, a person dedicated to the highest standards of health throughout the prevention, diagnosis, and treatment of all oral diseases and conditions.

### Pre-Law

Law is the system we use to ensure order and justice for individuals and communities within our society. The broad nature of the legal field allows people to work with the law in a number of ways. Litigation (trial practice), representative practice, legal planning, education, and adjudication (becoming a judge) are traditional ways in which people work directly with the law. However, a legal education is useful and may be applied to a variety of other fields such as business, insurance, government, writing, resource management, or publishing.

### Pre-Medicine

The medical profession offers a wide variety of career options that are exciting, challenging, and rewarding. Although the environment in which medical services are provided has been changing rapidly and will continue to change, the physician's role as diagnostician, healer, and patient advocate remains central to the provision of health care in our country. Although most physicians provide direct patient care, some MD degree recipients concentrate on basic or applied research, become teachers or administrators, or combine various elements of these activities.

### Pre-Mortuary Science

Completion of a professional program in mortuary science leads to licensure as a funeral director/embalmer. Morticians deal with funeral planning, death registration, embalming, and the grief and bereavement issues of families and friends of the deceased.

### Pre-Occupational Therapy

Occupational therapy is a health care profession using purposeful activity (occupation) as a means of preventing, reducing, or overcoming physical, social, and emotional challenges in people of all ages. An

occupational therapist works with individuals whose participation in daily activities has been impaired by physical injury/illness, developmental/learning disabilities, psychological/emotional problems or the aging process. The occupational therapist carefully evaluates each person to determine physical and/or mental strengths and weaknesses, and, in conjunction with other health professionals, develops a program using purposeful activities and adaptive equipment to encourage the patient's involvement in meaningful daily living.

### Pre-Optometry

Optometry is the primary health profession dedicated to caring for vision. Through academic and clinical training, optometrists acquire the knowledge and skills needed to diagnose, treat, and prevent problems of the visual system. Providing health education, managing curative or preventive regimes, and supplying vision care to special groups of patients are all parts of an optometrist's work.

### Pre-Pharmacy

Pharmacists are responsible for drug therapy and drug distribution and must possess the scientific and technical knowledge necessary to evaluate drug therapy for each individual patient. They must develop skill in personal relations with patients and other health professionals. Above all, they must be able to make good use of acquired knowledge and experience in arriving at sound judgements and policy decisions.

### Pre-Physical Therapy

As an important member of the health care team, physical therapists assess and treat disabilities and promote wellness to individuals of all ages. Their primary objective is to promote optimum human health and function. The physical therapist conducts physical evaluations to determine the patient's potential for rehabilitation and life style changes indicated, as well as educates the patient and family.

### Pre-Physician Assistant

The physician assistant (PA) practices medicine with the supervision of a physician. As a result of extensive medical training, the PA can assume many tasks traditionally performed only by a medical doctor, thereby helping the physician to be more efficient. Each supervising physician utilizes the services of a PA based on his/her own practice needs. Typically the PA obtains the patient's medical history, performs a comprehensive physical examination, and orders appropriate laboratory and x-ray studies. The PA diagnoses and treats a wide range of common medical problems, and assists the physician in the management of complex chronic illnesses. Many PAs make hospital and nursing home rounds and assist in surgery. A very important part of the PA's role is to educate the patient and the community about illness, family planning, social services, health hazards, baby and child care, and other aspects of health promotion and disease prevention.

### Pre-Radiation Science Technology

There are two options for students pursuing radiation science technology: radiography and nuclear medicine technology.

Medical imaging is the specialty of the radiologic technologist (or radiographer). As part of the radiology team, the technologist uses radiation and other modalities to produce images of the tissues, organs, bones and vessels of the human body. The radiographer positions the patient and applies the exact quantity and the precise quality of radiation necessary to produce the image. Physicians trained in radiology interpret the images and diagnose the conditions shown.

The field of nuclear medicine technology uses radioactivity to help find diseases or other conditions in people, to treat some diseases, and to investigate better methods of diagnosis. Disorders in any part of the body may be studied—for example, a blood clot in the lungs or brain, altered rhythm of the heart, or infections in the bone or tissues. The nuclear medicine technologist has many responsibilities: caring for the patient, assuring that equipment is operating properly, preparing radioactive drugs, and performing the actual procedures.

### High School Preparation

Students planning to pursue advanced work in any of the above pre-professional programs should begin with a strong college preparatory course in high school. In addition to meeting the University entrance requirements, it is recommended that pre-professional students finish four years of the same foreign language in high school. Pre-health students are also encouraged to take as many years of mathematics and science as possible.

### Admission to Professional Programs

The admission requirements for these programs vary and may change from year to year. Admission to the professional programs is competitive. Students need to be aware of not only specific course requirements but also entrance exams, admission deadlines, research and volunteer opportunities, and other activities that enhance the application. In order to receive the most timely information on requirements and preparation, students should visit or contact the Arts and Sciences Advising Center, 107 Oldfather Hall, 472-4190, [asadvising-center2@unl.edu](mailto:asadvising-center2@unl.edu). Information is also available on the Web site [www.ascweb.unl.edu/advise.html](http://www.ascweb.unl.edu/advise.html).

### Nebraska Teaching Certification

The Nebraska Teaching Certificate, appropriately endorsed, entitles one to teach in any school in the state. It is possible to obtain the certificate for elementary school teaching or secondary teaching while earning a bachelors degree from the College of Arts and Sciences.

A student who wishes to obtain a bachelors degree from the College of Arts and Sciences and the Nebraska Teaching Certificate should do the following:

1. Consult with major adviser.
2. Consult with the advisers in the College of Education and Human Sciences, 105 Henzlik Hall.
3. Enroll in both the College of Arts and Sciences and College of Education and Human Sciences. Forms are available in the Arts and Sciences Advising Center, 107 Oldfather Hall.
4. Fulfill the College of Arts and Sciences general education requirements.
5. Fulfill the College of Arts and Sciences major requirements including the minor, if required.
6. Fulfill professional education requirements, endorsement requirements and General Education as required by the Nebraska Department of Education. A minimum cumulative GPA of 2.5 is required.

Students planning to follow this course of study should begin by the sophomore year or sooner if possible. Unless the program is carefully planned, it may require more than four years for completion.

If a student is uncertain about whether to earn the bachelors degree through the College of Education and Human Sciences or the College of Arts and Sciences, he/she should consult the College of Education and Human Sciences Student Services Center, 105 Henzlik Hall, or the Arts and Sciences Advising Center, 107 Oldfather Hall.



# College of Business Administration

**John E. Anderson, Ph.D.**, Associate Dean and Baird Family Professor  
**D'vee Buss, Ph.D.**, Assistant Dean  
**Donna M. Dudney, Ph.D.**, Assistant Dean

## About the College

### Mission and Objectives of Undergraduate Degree Program

The mission of the College of Business Administration is to foster intellectual curiosity and business insight by providing high quality instruction, research, and service to students, the citizens of Nebraska, and to the national and international communities served.

The undergraduate program of the College of Business Administration has the following objectives and intended outcomes:

1. Communication Skills: Graduates will be prepared and able to communicate effectively, in writing and in presentations, for a career in business.
2. Intellectual Depth and Breadth: Graduates will demonstrate depth and breadth of knowledge necessary to obtain a career in business.
3. Critical Thinking: Graduates will possess critical thinking (analytical, quantitative, and problem solving) skills and will be able to apply the intellectual depth and breadth with which they have been provided.

4. Business Environment Knowledge and Skills: Graduates will have knowledge and awareness of ethics, technology, diversity, business environment (domestic and international) factors, leadership and team skills, and change management so that they are well prepared for a career in business.
5. Overall Preparation: College of Business graduates will find ready employment in their field or be well prepared for admission into graduate programs.

The faculty of the College has designed the undergraduate curriculum which leads to a degree of **bachelor of science in business administration (BSBA)** in conformity with this mission and these objectives. The College emphasizes:

**ACE—Achievement-Centered Education:** An innovative, outcomes-focused general education component designed to enhance the undergraduate experience by providing broad exposure to multiple disciplines, complementing the major and helping students develop important reasoning, inquiry, and civic capacities

**Business Core Foundation Courses:** to provide students a general business background

**Business Core Intermediate Courses:** to provide students a broad perspective of business areas

**Business Core Advanced Courses:** to develop depth in a single area of business study; i.e., accounting, actuarial science, agribusiness, business administration, economics, finance, international business, management, or marketing; plus a capstone and assessment requirement at the end of the program

**Electives:** to round out a student's education with course work in business and non-business areas which complements a student's specific area of interest

## Administrative Structure

### Degrees, Majors, and Minors

The College offers a bachelor of science in business administration degree, as well as five masters degrees, three joint masters degrees (juris doctorate/master of business administration, juris doctorate/master of professional accountancy, and master of business administration/master of architecture) and two doctor of philosophy degrees.

The MBA degree is offered on campus and via distance. Undergraduate students earning a bachelor of science degree may choose a major in accounting, actuarial science, agribusiness, business administration, economics, finance, international business, management, or marketing. Minors in selected areas are also available to students, as is the option to double major within the College or to pursue a dual degree with another college.

### Accreditation

The College is a founding member of AACSB (Association to Advance Collegiate Schools of Business) together with such colleges and universities as Harvard, Yale, University of Chicago, University of Texas and twelve others. Only 555 business schools with graduate and undergraduate level degrees are accredited by AACSB internationally. The College and the School of Accountancy, which is separately accredited, both maintain the high standards required by AACSB for accreditation.

## Students

The nearly 3,000 member student body is richly diverse with approximately 6% of the student body from other countries. The students are involved in campus and community activities and consistently win awards for leadership. The College sponsors 18 student organizations where students can put their classroom learning to practical use. The Students in Free Enterprise own and manage two businesses under the guidance of the Center for Entrepreneurship. The Student Advisory Board organizes and manages several large events at the College each year including a holiday mixer and B-Week. The UNL chapter of the American Marketing Association consistently wins awards at national competitions, as does Phi Beta Lambda.

The UNL chapter of the prestigious business honorary, Beta Gamma Sigma, celebrated its 85th anniversary in spring 2009, making it one of the oldest chapters in the U.S.

Student organizations in the College include:

- Actuarial Science Club
- Ag Economics/Agribusiness Club
- Alpha Kappa Psi
- American Marketing Association
- Beta Alpha Psi
- Beta Gamma Sigma
- Business Learning Community Student Advisory Board
- CBA Student Advisory Board
- Collegiate Entrepreneurs of the Heartland
- Delta Sigma Pi
- Management Information Systems Club
- MBA Student Association
- National Agri-Marketing Association
- Omicron Delta Epsilon
- Phi Beta Lambda (FBLA)
- Society for Human Resource Management
- Students in Free Enterprise
- Undergraduate Women in Business

## Professional and Community Involvement

The College, the students and the business community maintain a strong working relationship. The students benefit from campus visits from visiting executives through the Executive-in-Residence program, the Masters Week executives, the Leadership Forum, and other guest speakers and classroom visitors. Internships are available from many businesses in the surrounding area. National and regional companies actively recruit our students. Students host businesspeople at various social and educational events at the College.

Recent guest speakers at the College have included: Warren Buffett; Bill Gates; Robbie Bach, President, Microsoft Entertainment; Paul Hogan, Founder and CEO, Home Instead Senior Care; Jim Clifton, CEO, The Gallup Organization; Carrie Tolstedt, Group Vice-President for Wells Fargo Company; Barbara Krumsiek, President and CEO of The Calvert Funds; Robert Duncan, Chairman of Duncan Aviation; Thomas Hoenig, President of the Federal Reserve Bank of Kansas City; and John Hoerner, CEO of Central European Clothing, Tesco.

## Faculty

All tenure-track and full-time lecturers are terminally degreed. Lecturers from the business community bring real-world experience to the classroom. All PhD students are required to take a teaching techniques class. Over the past five years, faculty have published over 50 textbooks, many of which are the leading texts in their field. Several scholarly journals and book series are edited by our faculty. A complete listing can be found on our website at [www.cba.unl.edu](http://www.cba.unl.edu). Faculty have also published hundreds of articles and presided over many national and international conferences. The faculty is consistently recognized by the university for outstanding teaching, research, and advising.

The faculty is active in business, sitting on for-profit and not-for-profit boards of directors and government advisory boards. Many members of the faculty are experts in such matters as economic foundations of emerging countries, management education in Eastern Europe, federal, state, and property tax issues, and business practices and Pacific Rim Countries.

## Centers, Institutes and Programs

**The Cornhusker Fund** is a vital part of the curriculum of the Security Analysis course, which allows students to participate in fund management exercises and applications of portfolio theory using actual money. The fund is valued at over \$1 million.

**The Program in Business Ethics** seeks to enhance the discussion of ethical issues among students, faculty, and community members through curriculum innovations, an ethics resource center, student and faculty research projects, a speaker/colloquium series, and community outreach programs. The program is gaining national recognition for its effectiveness in ethics education.

**The agribusiness major**, a joint program between the College and the College of Agricultural Sciences and Natural Resources, is designed to meet the agribusiness industry's needs for employees with training in both business and agriculture.

**The E.J. Faulkner Small Group Writing Lab** is designed to develop essential communication skills that students need to be successful in business.

**The School of Accountancy** offers an integrated five year Masters of Professional Accountancy (MPA) degree. The School of Accountancy is in the top five schools for placing graduates in the Financial Accounting Standards Board Postgraduate Fellowship program.

**The Bureau of Business Research** provides valuable economic and demographic data to state and local governments, as well as information on the business climate for new and existing businesses in Nebraska.

**The Center for Economic Education** provides training for K-12 teachers to educate elementary and secondary students in economics. The Center sponsors the Stock Market Game for high school students across the state, as well as Economics Education Day on campus in the fall. The National Center for Research in Economic Education is housed within the center.

**The Nebraska Center for Entrepreneurship** provides students with the opportunities, advice, and support necessary for starting, owning, and managing a successful small business. The Center sponsors an annual conference and two business plan competitions per year.

**The UNL Leadership Institute** provides leadership training through workshops, guest speakers, and special projects. The Institute directs the MA/MBA Program in Executive Leadership and a PhD program with a concentration in leadership.

**The UNL-IBM Global Innovation Hub** promotes collaboration and innovation between UNL and IBM on academic training and research initiatives in on-demand business and computing.

**The Actuarial Science Program**, housed within the finance department, is one of the few complete degree programs in the U.S.

**The Jeffrey S. Raikes School of Computer Science and Management** is an innovative, integrated management and technology program providing students with a deep understanding of both concepts and processes of information technology and business.

## Study Abroad

The College of Business has several outstanding study abroad programs.

**The Nebraska at Oxford program** allows undergraduate students to study British political and economic policy at Oxford University in the summer.

**Senshu University in Japan** gives students an opportunity to study business and Japanese language in Tokyo.

**The Consortium of Universities for International Business** offers summer and semester graduate and undergraduate business courses in the Veneto region in Italy.

**ESCEM School of Business and Management** in Poitiers, France, offers graduate and undergraduate work in management.

**The Pan Pacific Study Tour** provides opportunities for students to visit businesses and universities in Pacific Rim countries during a three-week tour in the summer. The tour culminates with participation in the Pan Pacific Conference.

**Xi'an Jiaotong University in China** is a three-week summer program on Chinese business and culture, with additional days in Beijing and Shanghai.

**Mexico, Spain, Australia, and Others.** Other programs are available in many countries. Refer to [www.unl.edu/affairs/](http://www.unl.edu/affairs/).

## Communication Laboratories

Through the College communication laboratories, students in designated business classes work in teams to develop their writing, speaking, and human relations skills. Laboratory staff facilitate the student team projects, act as a resource for individual faculty and students, and provide workshops and seminars on communication skills.

## Technology

Information Technology Services (ITS) provides Web and information systems development and maintenance for the College and for the University community. ITS provides hardware and software technology training. Services include Web-based training modules, applications training, classroom instructional equipment training, and just-in-time training.

The College has 26 lecture classrooms equipped with technology-rich consoles. The College also offers three interactive computing classrooms. The building is equipped with a wireless Internet system. Video conferencing is available. Walk-up e-mail stations are placed conveniently throughout the building.

The Coe Computer Lab provides a computing environment to support instructional and research activities. Located in the lower level of the College, the Coe Center encompasses 1,600 square feet and supports more than 100,000 student visits per year.

## Scholarships

In addition to the scholarships awarded by the University, the College of Business Administration awards a number of scholarships funded by industry, foundations, and individuals. Criteria for awarding these scholarships vary to meet the wishes of the donors, but often include financial need, academic performance, major area of study, and class standing. Generally, new freshman students with a 3.3 ACT or current students with a 3.7 GPA or higher will receive a scholarship.

Students who have completed a minimum of 12 credit hours at the University as students in the College of Business Administration are eligible to apply for an upper-class scholarship from the College.

Students begin the upper-class scholarship process through WAM beginning in mid-November. New high school admits are automatically considered upon admission. Additional information can be found at the Web site: [www.cba.unl.edu](http://www.cba.unl.edu).

## Academic Advising

The academic advising responsibilities for students appear in the following section "Student Responsibilities in Advising." Students are responsible for fulfilling requirements of the curriculum.

### Dean's Office for Undergraduate Programs.

Students are encouraged to obtain information and advice through the Dean's Office for Undergraduate Programs and will find its staff is well trained and easily accessible. The staff includes both professional staff and peer advisers who can provide academic counseling and answer questions on specific degree requirements, transfer credits, prerequisites, changes in major or college, waivers, procedures or policies, and other available campus services.

**Faculty Adviser.** Upper-class students in the College are also assigned to an individual faculty adviser who shares his or her academic interest. Students should visit with their faculty adviser about their choice of major, electives within their major and career opportunities.

**Student Responsibilities in Advising.** The University of Nebraska–Lincoln and the College of Business Administration are committed to providing effective academic advising to students as an essential component to their educational experience.

Academic advisers are available to assist in assessing educational goals, planning programs of study, understanding program requirements, and following policies and procedures. **Students are ultimately responsible for fulfilling all the requirements of the curriculum in which they are enrolled.** Students are also responsible for initiating advising contacts and preparing for advising sessions. The mentoring relationship between academic advisers and students is confidential and is strengthened by advisers' listening with understanding to student concerns.

Students are expected to take responsibility for a successful university experience and effective advising session. For this to occur the student must:

- Participate in New Student Enrollment, priority registration programs, and any other University/College programs designed to enhance the student-life experience.
- Review DARS (Degree Audit Report) each semester and schedule appointments with advisers well in advance of priority registration and at other times as needed. Keep appointments and be punctual, or call to reschedule if necessary.
- Read the appropriate sections of the *Undergraduate Bulletin*.
- Identify specific questions to address prior to meeting with an adviser and be prepared to do long-term planning.
- Provide honest and accurate information to the adviser regarding any concerns, questions, special needs, deficiencies or barriers that might affect academic success.
- Follow academic policies and procedures and meet academic calendar deadlines (e.g. registration, fee payment, degree audit, filing for degree, etc.).
- Know and complete program requirements.
- Seek assistance from the various student support services provided by the University and College.

- Immediately notify the University of any change in postal address, email address, and/or phone number.

## Honors Program

The College of Business Administration participates in the Nebraska Honors Program both in and out of the classroom. University Honors Program courses are accepted to fulfill degree requirements and the College works with departments and individual students to design upper-level course work of specific interest to honors students. For additional information concerning the program, see "Nebraska Honors" on page 19.

CBA students completing 14 hours of UNL credit with a 3.5 cumulative GPA are extended an honors opportunity to enroll in sophomore level business classes. Honors students also have the option to complete MNGT 475H Honors Business Policies and Strategies in place of the thesis providing all prerequisites are completed (not in progress). This honors-section course is only offered once a year.

## Jeffrey S. Raikes School of Computer Science and Management

The purpose of the Jeffrey S. Raikes School of Computer Science and Management is to produce unique graduates who combine business knowledge and computing fundamentals for enterprise information and software systems. Graduates will be professionals who understand the multiple levels of new information systems and who become the technology sector's innovators, product developers, entrepreneurs, chief information officers, and CEOs.

The undergraduate program is designed to not only improve students' ability to create information technology applications and solutions, but also the capacity to understand the implications of information technology for business and society. The program will produce graduates with high technical proficiency as well as a strong sense of the business problems and organizational needs that information systems are intended to serve.

Students interested in learning more about the Jeffrey S. Raikes School of Computer Science and Management program are encouraged to call 472-6000 or visit the program Web site at [raikes.unl.edu](http://raikes.unl.edu).

Jeffrey S. Raikes School of Computer Science and Management requirements differ from those listed in the Curriculum Requirements section. Students work closely with the program's advisers.

## Honors and Awards

Many special awards, established by professional groups, alumni, and others interested in the University, are presented annually in recognition of academic excellence and noteworthy achievements in other areas of college life. Awards based on academic excellence include William Gold Keys for first year students, Clifford M. Hicks Honor Keys for second year students, and LeRossignol

Scholars for third year students. Information about these and other student honors and awards is available through the Dean's Office for Undergraduate Programs.

## Dean's List

The Dean's List recognizes undergraduate students who complete 12 or more hours for a grade (excluding hours with P, NP, NR and I marks) during the semester and earn a grade point average of 3.6 or higher. A Dean's List is not issued for summer sessions.

All students achieving Dean's List status will have their names published in the newspaper closest to their next of kin address (i.e. Lincoln Journal Star for students listing Lincoln as their next of kin address) providing they have identified the option to release such information. Students residing in Lincoln for the academic year but wanting their name published in their hometown newspaper (i.e. Omaha) will need to list their home town address as the next of kin address. Address changes can be made through WAM, NRoll, or in person at 107 Canfield Administration Building. No information will be distributed to the media for those students requesting confidentiality of University information.

## Degrees with Distinction

High scholarship is recognized at graduation. Undergraduate students are recommended for this honor by the Scholarship, Honors, and Awards Committee of the College. To be eligible for consideration by the Committee, undergraduate students must complete 45 credit hours for a letter grade (excluding Pass/No Pass marks) at UNL prior to the semester in which they graduate and must have completed 60 such credit hours at UNL at the time they graduate. To determine which of the eligible candidates will be recommended for the honor, the Committee uses the cumulative grade point average based on all credit hours taken at UNL prior to the beginning of the term in which the student receives his or her degree. No specific cumulative grade point average is required but the honor is limited to approximately ten percent of the graduating class. This usually means a 3.8 (or higher) GPA. Students will be notified of the distinction, high, or highest distinction designation approximately one month before graduation.

## Careers

The College's students are served by the University **Career Services** (230 Nebraska Union) which offers comprehensive job placement services to students and alumni. Counselors help students determine personal career goals, develop a plan for achieving their goals, and select and obtain employment which reflects their goals, interests and training. To help students prepare for their career search, Career Services maintains a resource library and a comprehensive Web site, [www.unl.edu/careers/](http://www.unl.edu/careers/), plus presents workshops on resume writing, interviewing, conducting a job search, and offers career counseling.

To better serve the students, the College offers a career skills course to help students develop job hunting skills. In addition, a staff member from Career Services is assigned to the College and presents many of these workshops within the College.

Student internships are also available through the University **Career Services**. Through internships, students can learn more about career opportunities and adjust their academic courses to better prepare them for those opportunities. While students may apply for internships as early as their first year in college, most internships are better suited for junior or senior students who have been prepared by their academic courses for the internship positions. Although few internships provide academic credit within the College, students are encouraged to seek internships to provide them with experience which can be useful in making career choices. Representative internships include public accounting firms, banks, insurance companies, senator's offices, and hospitals.

## Admission to the College

The entrance requirements for the College of Business Administration are the same as the UNL General Admission Requirements (see "Admission to the University" on page 6). Students who are admitted through the Admissions by Review process with core course deficiencies will have certain conditions attached to their enrollment at UNL. These conditions are explained under "Removal of Deficiencies" on page 6 of this bulletin. As noted, it is expected that deficiencies are completed in a timely manner. Furthermore, specific to students in the College of Business Administration, credit is not applicable toward degree requirements for any courses considered as a high school deficiency class nor for any skills development courses.

**Math Placement Exam (MPE).** As an additional preparation for enrollment, students admitted to the College of Business Administration are required to take a Math Placement Examination prior to enrolling in the college math requirement of MATH 104 or 106. The results of this examination determine which math course students will enroll in their first semester on campus.

If students lack sufficient high school preparation in math, exam results will indicate a need to enroll in equivalent high school algebra courses, such as MATH 95 (not for college credit) or MATH 100A (may be taken for college credit but does not apply toward graduation requirements). These deficiencies should be taken as soon as possible to avoid future sequencing problems. Some students may test to the level of MATH 101 or 103, which serve as necessary college algebra prerequisites for MATH 104 or 106. Both of these prerequisite math courses are for college credit, fulfill elective hours (unless it is taken to fulfill a deficiency), and should be taken early in the program to prepare for the math requirement. **Credit cannot be given for both MATH 104 and 106** so students must determine the appropriate course early in their program. Selecting 104 or 106 or a higher-level math class is based on test results and then is

the student's choice, although 106 or a higher course is necessary for actuarial science and for those students considering graduate school.

Additional information about the exam can be found on the Web site: [www.math.unl.edu](http://www.math.unl.edu).

## Transfer Students to the College of Business Administration

Students who transfer to the University of Nebraska-Lincoln from other colleges, technical schools, or universities must meet the entrance requirements, follow the college curriculum rules and requirements, and have a minimum cumulative grade point average of 2.5 to be eligible for enrollment in the College of Business Administration. Students who do not meet this requirement must enroll in another college at the University and achieve a minimum 2.5 cumulative grade point average in the first 12 hours or more of course work taken at UNL. They may then be considered for admission to the College of Business Administration.

University guidelines provide for a maximum of 98 transfer hours from four-year institutions, and a maximum of 66 hours from two-year technical schools and foreign institutions. The special sections listed below provide additional restrictions for transfer of courses which may further limit the number of transfer hours.

To ensure a majority of business course work is completed at the University of Nebraska-Lincoln, a maximum of 50% of the business course requirements (30 semester hours) may transfer (after departmental evaluation of credit). While acceptance of transfer hours count for the Business Core Foundation (15 hours), there are restrictions on the maximum hours permitted in the Business Core Intermediate (9 hours); and 9 hours in the Business Core Advanced (providing the overall maximum of 30 hours total for the 50% ruling has not been violated).

Students may not choose which courses to transfer. All hours are evaluated using the procedure described above and acceptance will be determined by the departments and the Dean's Office for Undergraduate Programs. While several 'kinds' of departments, programs, and schools teach "business," CBA-UNL will make the determination as to whether course work is considered to be business college-taught course work appropriate for transfer. Additional course work may be required in the acceptance of a transfer course because of the level of course completed from the transfer institution.

In addition, the College of Business Administration does not accept courses for transfer from institutions outside of the University of Nebraska system in which a D or F grade was received (note exceptions below).

### Transferring from Universities and Colleges

**Outside of Nebraska.** In addition to the above guidelines, transfer courses are evaluated by the University and the College to determine eligibility for acceptance.

Business course work completed from an AACSB institution (Association to Advance Collegiate Schools of Business) may be accepted to fulfill requirements,

depending on the number of courses and descriptions. Other business course work, or business course work from an institution other than an AACSB school, must be evaluated by the appropriate department to determine whether the course(s) can be accepted for degree requirements. There are limit restrictions.

In instances where the University has determined the institution to be such that credit is accepted only upon departmental evaluation/validation, credit will be accepted once students meet with the appropriate department(s) to determine college-level credit and equivalencies.

**Transferring from UNO and/or UNK.** Equivalency agreements between the three institutions within the University System allow for a smooth transition for students interested in transferring or taking courses from UNO, UNK, and/or UNL. The Web site listing the equivalencies can be found at <http://admissions.unl.edu/transfer/credit>. In addition to the restrictions noted in the introductory paragraphs of this section, grades of D from UNO and UNK may transfer with the exception of accounting courses, where many classes require grades of C in prerequisite accounting classes. The School of Accountancy also does not accept any transfer credit for 400-level credit. Students interested in returning to Omaha or Kearney for the summer to complete course work at UNO or UNK should consult with the Dean's Office for Undergraduate Programs **before** enrolling in courses to ensure appropriate courses are accepted for transfer, and to avoid violation of the residency rule or maximum acceptance for the 50% rule.

**Transferring from Nebraska State/Community Colleges.** Equivalency agreements with Nebraska colleges give students an indication of what courses will transfer to UNL and the College of Business Administration. The Web site listing the equivalencies can be found at <http://admissions.unl.edu/transfer/credit>. The same guidelines noted above on the acceptance of courses, grades, hours, and level of courses also apply to these institutions, except the D/F ruling, which is an exception for UNO/UNK only. The Curricula Guide at this Web site also provides a listing of courses at the community colleges that may be taken to fulfill UNL-CBA equivalents.

**Transferring from Technical, Non-Accredited, and Foreign Institutions.** Students who desire to transfer credit from these institutions must have each course evaluated by the appropriate departmental representative. There are agreements with some foreign institutions. All rules in reference to grades, maximum credit hours and the 50% ruling still apply. For additional information and guidance on this process, students should contact the Dean's Office for Undergraduate Programs.

**Transferring from Other Colleges at UNL.** Students transferring from other colleges on campus are required to follow the curriculum requirements of the College enforced at the time they transfer to the College, not at the time they entered UNL.

UNL students who wish to transfer to CBA must attend a transfer-in session as a condition of their acceptance into the College. Eligible students (minimum 2.5 cumulative GPA) should pick up their

advising folder from their college and bring it to the Dean's Office of Undergraduate Programs, 138 CBA.

## Readmitted Students

Students readmitted to the College of Business Administration who previously left the College in good standing (including a minimum 2.5 cumulative GPA) may return to the College. Students will, however, be required to follow current requirement guidelines of the College. Instructions to request an appeal of this policy are available in the Dean's Office for Undergraduate Programs.

Students who left the College with a cumulative GPA below 2.5 may not return to the College until they have achieved a minimum 2.5 cumulative GPA at UNL. At that time, they may transfer back to the College, but must meet the requirements of the College enforced at the time of their new entrance to the College of Business Administration. No waivers to follow old curriculum requirements are permitted for students who leave the College with less than a 2.5 cumulative GPA.

## International Students

International students seeking admission to the College who are required by Admissions to take the TOEFL must have a score of 525 (paper-based score) or an Internet score of 70. Students need to have a mastery of English, determined by the placement test; then upon their arrival at UNL, additional course work may be required.

The acceptance of transfer hours is limited to 66 hours and the same transfer policies noted in the previous sections apply.

## College Academic Policies

### Student Classification in the College

Students, when admitted to the College, receive **first year standing** if they meet the University's entrance requirements. Upper level students receive standing as **sophomores, juniors or seniors** and are qualified to continue to take courses in the College if they meet the minimum requirements established for: 1) cumulative grade point average; and 2) progress towards a degree.

A 2.5 cumulative grade point average is required to apply for graduation, as well as a requirement for enrollment in Accounting 201 and 202, Economics 215, Business Law 371 and 372, Finance 361, Management 331, 360, 475, Management/Management Information Systems or Marketing 350, and Marketing 341. In some instances, a specific grade is required in certain courses to continue with upper-level course work.

Progress towards a degree assumes students are taking course work in sequential order and according to specific prerequisite, departmental and college requirements. Refer to college or departmental policies and course descriptions for

GPA/grade and other prerequisites and restrictions.

**Freshman Standing.** During this year, the student will progress toward meeting the non-business course requirements (ACE) and begin two of their business course foundation courses. Students will also complete any entrance deficiencies determined at the time of their admission.

Second semester freshmen who complete MATH 104 (or higher) with a grade of "C" or better and have a cumulative 2.5 GPA over at least 14 credit hours earned at UNL, may seek permission to enroll in ACCT 201 (which normally requires sophomore standing). Permission can be obtained from CBA 138 once verification of the above has been met. Permission is also permitted for ECON 211 or 212 upon completion of 12 hours of UNL credit.

**Sophomore Standing.** For admission to sophomore standing, a student must have completed all of the college entrance requirements and earned a minimum of 27 semester hours of credit. It is expected that students will maintain a 2.5 cumulative GPA to remain on sequence for graduation.

**Junior Standing.** A student has junior standing after meeting the requirements for sophomore standing and completing 53 semester hours of credit. It is expected that students will maintain a 2.5 cumulative GPA to remain on sequence for graduation.

**Senior standing.** A student has senior standing after meeting the requirements for sophomore standing and completing 89 semester hours of credit. It is expected that students will maintain a 2.5 cumulative GPA to remain on sequence for graduation.

### Policy/Procedure Guidelines

As members of the University academic community, students in the College have certain rights and responsibilities and are bound by the University code of conduct for all students at the University. Information on student rights, responsibilities and code of conduct can be found on page 431 of this *Undergraduate Bulletin*.

In addition to University policies and procedures, the College has a policy of restricted academic enrollment and eligibility for undergraduate students. The requirements are as follows:

1. Students in the College of Business Administration will follow the curriculum requirements enforced at the time of matriculation into the College. Students who drop out of school or transfer to another college or institution and return at a later point in time will be required to complete degree requirements at the time they re-enter the College.
2. Students who enter the College of Business Administration must meet all college and specific course prerequisites, to include GPA and grade restrictions, in order to enroll in business courses. **The College may administratively drop students lacking prerequisites, but students are responsible for dropping the course(s).**

3. Prerequisites, when stated anywhere in this bulletin, means course work that **MUST BE COMPLETED** to enroll in the next class. Concurrent enrollment is NOT permitted as a prerequisite.
4. A minimum of 120 semester hours of applicable credit is required to earn the degree. (BSAD 150 and other identified courses such as MATH 100A count toward full-time status, but are not applicable to the 120 hour requirement.)
5. A minimum 2.5 cumulative grade point average is required to enroll in several business courses, is required to remain in good standing in CBA, and is needed to apply for graduation to receive the BSBA degree. Check prerequisites to ensure eligibility. **Grades of D or D-** are accepted to satisfy requirements for the College of Business Administration unless specific courses and course prerequisites require higher grades (such as accounting classes), and in instances where a department (such as those in Arts and Sciences) requires grades of C in course work for a major and/or minor. Students who receive a grade of D or D-, however, are encouraged to retake the course, as well as retaking courses with grades of C-, as a 2.5 cumulative GPA is necessary in many instances.
6. Grades of P in the Pass/No Pass option are generally not allowed in the College of Business Administration. Refer to next column, "Pass/No Pass Courses," for a complete listing of restrictions.
7. Students from other colleges on campus wishing to enroll in a course offered by the College must meet course prerequisites, including GPA restrictions.
8. A maximum of 14 hours of military credit is permitted.
9. Students in the College of Business Administration must earn a minimum of 60 credit hours of business college course work.

## Academic Load

A maximum of 19 credit hours (including online and independent study courses through Extended Education) may be taken each semester without special permission from the Dean's Office for Undergraduate Programs. A minimum of 12 credit hours must be taken each semester to remain a full time student.

To complete the requirements for a degree in eight semesters, a student must earn an average of 15 credit hours each semester. Most students need a minimum of two hours of preparation for every hour in class, so a schedule of 15 credit hours is actually equivalent to a 30 hour a week job (15 classroom + 30 preparation).

The student who must work or one who may need additional study time, should plan to take a lighter load and consider taking some summer

sessions or an extra semester or two to complete the work required for a degree. In the event that a student's cumulative grade point average falls below 2.5, a lighter academic load may be required.

## Credit by Examination

Credit by examination is generally not available for courses offered by the College of Business Administration, with the exceptions noted in the paragraphs which follow.

Students who feel substantial work experience should satisfy course requirements may approach the appropriate school or department for possible credit by exam options. Credit, however, is not simply given for work experience.

Credit by Examination is offered several times each year for BSAD 150. For information, please see the BSAD 150 Web site at [www.cba.unl.edu](http://www.cba.unl.edu).

The College Level Examination Program (CLEP) is available for students wishing to test out of Macro- and Microeconomics and Principles of Marketing and several non-business courses.

## Pass/No Pass Courses

The Pass/No Pass option is designed for students who want to study areas or topics in which they may have minimum preparation. If used for this purpose, the option can enrich the student's academic experience without lowering the student's grade point average. Not all classes, however, can be taken under the Pass/No Pass option because the faculty of the College believes the student should be adequately prepared for the required courses and the Pass/No Pass option would serve no purpose. These rules, which apply to all students who plan to either take classes offered by the College of Business Administration or to earn a degree from the College of Business Administration, are discussed below.

1. Any student in any College enrolled at the University of Nebraska-Lincoln may NOT take business courses in the College of Business Administration using a Pass/No Pass option.
2. College of Business Administration students may NOT take course work to satisfy ACE requirements, the International Business Course Requirement (IBCR), any required business course work, including the major and minor, using a Pass/No Pass option.
3. Students majoring in actuarial science through the College of Business Administration may NOT take any math, actuarial science, or required courses using the Pass/No Pass option.
4. Students may apply no more than 9 hours of elective credit using the Pass/No Pass option (excludes BSAD 101 and 150).
5. Students who are taking courses to fulfill the requirements of a minor in an area of study outside the College of Business Administration are subject to CBA rules restricting use of the Pass/No Pass option if courses in their minor are used to meet ACE or any college-specific requirements.
6. Students seeking any minor outside the College should verify rules applying to minimum grade expectations and Pass/No Pass options with the adviser for their minor as additional restrictions may apply and they often vary.

7. Students from UNO/UNK/UNMC and from other institutions are subject to the same restrictions listed here of UNL students.

Exceptions to the above rules are limited to the following and no other exceptions will be made.

1. An independent study course (398, 399) may be taken in the College of Business Administration using the Pass/No Pass option with the permission of the instructor and the department chair but College of Business Administration students who qualify for this exception may use the independent study course (398, 399) **only** as elective credit.
2. Advanced Placement grades of P and Credit By Exam grades of P will be accepted to fulfill degree requirements (with the exception of BSAD 150). These hours will not count as part of the 9-hour-maximum hours permitted.
3. Students who travel abroad and return with "credit" rather than grades from the institution where they studied may use P grades to fulfill degree requirements. These hours will not count as part of the 9-hour-maximum number of hours permitted.

## Grade/Late Withdrawal Appeals

Students who believe they have received an unfair grade may take the following sequential actions to appeal a grade:

1. The student must discuss the situation with the instructor involved.
2. If no acceptable solution is reached, the student may file a written grade appeal with the Grade Appeal Committee of the specific department or school in the College within the first 20 days of the academic semester following receipt of the course grade. In making his or her appeal, the student must allege that the guarantees contained in Section II, Part B, of the Student in the Academic Community, found in "Student Rights and Responsibilities" on page 431 of this bulletin, have been violated. The Committee may be contacted through the department chair or school director.
3. If either the instructor or the student disagrees with the decision of the Grade Appeal Committee, a written appeal may be filed with the Collegiate Grade Appeals Committee, which may be contacted through the Dean's Office for Undergraduate Programs.

Appeals to change the grade option in a course after the deadline, as well as any late withdrawal requests must be made in writing to the College Grading and Examinations Committee. Restrictions, options, and forms for either of these procedures may be obtained from the Dean's Office for Undergraduate Programs. The College generally considers any appeal request to be made within a reasonable time frame.

## Curriculum/Policy Appeals

The faculty of the College have established degree requirements and policies and procedures. Any exceptions to the rules are made as an appeal through the Academic Planning Committee of the

College. This request can be made only in unusual circumstances and cannot serve as an excuse for not following college guidelines. Specific instructions and procedures for consideration of exceptions are available in the Dean's Office for Undergraduate Programs. Students must meet with an adviser in this office to determine eligibility to request an appeal of the faculty as represented by the Academic Planning Committee.

## Graduation Requirements

Each student who expects to receive a diploma must have a minimum 2.5 cumulative grade point average to file an application for degree candidacy. To be prepared for an on-time graduation, students should continue to monitor their progress through DARS, which is a personalized degree audit that can be accessed through WAM. Your DARS will give you the following message "ALL REQUIREMENTS COMPLETED—IN PROGRESS COURSES USED" at the beginning of the semester you plan to graduate. The application for the degree is filed with the Office of Registration and Records, 109 Canfield Administration Building. Announcements regarding deadline dates are posted on campus bulletin boards and published in the *Daily Nebraskan*. **DEADLINES ARE EARLY IN THE SEMESTER.**

Students are responsible for informing the Office of Registration and Records of the manner in which they are completing their requirements (i.e., by independent study, clearance of incompletes, enrollment at another institution, special examinations, etc.); and of any revision of such plans. In addition, any change in address, email, or phone number should be specifically directed to this office (and updated through the NRoll or WAM procedure) to avoid a postponement of graduation until a later semester.

## Degree Programs and Areas of Study

Students graduating from the College will be awarded a bachelor of science degree in business administration (BSBA). While enrolled, students will select a major area of study. Dual degree and dual major opportunities are also available for those students who wish to expand upon their areas of interest. Although not required, minors, options, and emphases are also available, as is the opportunity to obtain a secondary teaching certificate. All of these options are described in the following section.

### Majors/Double Majors

The College offers majors in the areas of accounting, actuarial science, agribusiness, business administration, economics, finance, international business, management, and marketing. The programs in actuarial science and economics are also available through the College of Arts and Sciences, and the College of Agricultural Sciences and Natural Resources also offers the agribusiness major. In each of these instances, requirements differ between colleges. Students should compare both options to determine which program best meets their needs.

Students may also wish to consider the opportunity to double major within the College. With such an option, students cannot double count credit specifically for both majors, but with a careful selection of elective course options, most requirements can be completed with only a few additional hours of credit.

### Minors Outside the College

The faculty of the College encourages students to minor in a discipline outside the College. The faculty anticipates that these minors will assist students in developing logical and critical thinking, curiosity, understanding of the external environment and sensitivity to ethical issues. By developing these abilities, students can enrich their lives and provide a broader basis for informed and responsible decision making.

Following the same requirements as are imposed on students in the colleges that offer these minors, students in the College of Business Administration may minor in:

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European Studies.....	173
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Greek ( <i>see Classics &amp; Religious Studies</i> ) .....	152
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Philosophy .....	201
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Political Science .....	207
Psychology .....	210
Public Policy Analysis and Evaluation.....	211
Religious Studies ( <i>see Classics &amp; Religious Studies</i> ) .....	150
Russian ( <i>see Modern Languages</i> ) .....	199
Sociology.....	212
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Statistics .....	214
Textiles, Clothing and Design.....	215
Theatre Arts .....	347
University Studies .....	215, 350
Women's and Gender Studies .....	215

To determine the specific requirements for these minors (including grading options), the student must consult the *Undergraduate Bulletin* section for the College of Arts and Sciences or the Hixson-Lied College of Fine and Performing Arts and consult with the adviser for the minor in those colleges. Business course work used for any of the above minors cannot be double counted toward business degree requirements (with the exception of business electives), major or minor requirements. An actuarial science minor is not available to a finance major.

Plan A and B options must be carefully reviewed to ensure minimum requirements are met. **Plan B options require two minors.**

### Minors Within the College

The College of Business Administration offers the following business minors to **business students only**. (Non-business students should contact their college adviser to determine a 'business' minor availability.) Business course work used for any of these minors cannot be double counted toward business degree requirements (with the exception of business electives), major or minor requirements. Business students choosing to minor in economics must follow the CBA economics minor requirement.

Business students pursuing one of the following minors may also pursue a Plan A or Plan B minor (if available) from the list under "Minors Outside the College" on page 225.

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Accounting.....	231
Actuarial Science .....	233
Economics .....	235
Finance .....	238
International Business .....	240
Management .....	240
Marketing .....	243

### Other Emphases/Tracks

In addition to the required major and the option to complete a minor (or minors), management majors can emphasize areas of concentration in human resources, entrepreneurship, strategic management, or systems and operations management. In addition, marketing majors can pursue tracks in merchandising, merchandising/design or advertising. Requirements for each of these options are described in their respective major section. It should be noted that unlike the major and minor, recognition of completion of these emphases/tracks does not appear on the student's transcript.

## Business Minor—Non-Business Students

The College of Business Administration has joined with the College of Arts and Sciences, the College of Engineering, and the Hixson-Lied College of Fine and Performing Arts to offer a minor in general business to provide students a general business background. Students who minor in general business and are accepted into a masters program offered through the College of Business Administration will find they are well prepared to enter the masters program. Students in colleges other than those noted above should check with their college about the availability of the business minor for that specific college. The requirements remain the same.

**Pass/No Pass.** All course work for the minor (except BSAD 150) must be taken for a grade.

**GPA:** Please note: "most" course work for the minor requires a 2.3 GPA and there are no exceptions or waivers of this policy.

Required Foundation Courses	Hours
ACCT 201 and 202, or 306.....	4-6
ECON 211 and 212.....	6
ECON 215 or STAT 218 or 380 ( <i>if approved</i> ).....	3
MATH 104 or 106 or 108H.....	3-5
BSAD 150.....	0*
<b>Total 16-20</b>	

\* BSAD 150 is a required 1-credit course for the minor but the credit will not count toward a degree.

Required Business Core Courses	Hours
FINA 361.....	3
MRKT 341.....	3
<i>Select one from the following:</i>	
MNGT/MIST 350, MNGT 320, 331, 360 .....	3
300/400-level business course.....	3
<b>Total 12</b>	
<b>Total for the Minor 28-32</b>	

Any exceptions or alternative courses for substitutions to these requirements, must be submitted in writing to the Academic Planning Committee of the College for acceptance. See someone in CBA 138 for filing the appropriate appeal paperwork.

## Dual Degrees

Students may obtain a dual degree by simultaneously enrolling in and completing requirements in the College of Business Administration and another college on campus. Students will need to consult with both colleges to ensure all requirements are satisfied.

## Secondary Teaching Certificate

Every graduate of the College of Business Administration has many hours which could be applied to a secondary teaching certificate. With careful planning, students may integrate the requirements for the certificate with those for graduation from the College of Business Administration.

Students interested in obtaining a teaching certificate should contact the director of the College of Education and Human Sciences Student Services Center, 105 Henzlak Hall, for details.

## Curriculum Requirements

The curriculum requirements for the College consist of three area requirements: ACE (Achievement-Centered Education); Business Core (Foundation, Intermediate and Advanced), and Electives.

### ACE Achievement-Centered Education – Ten Courses (normally 30 hours)

This is the university's innovative, outcomes-focused general education component designed to enhance the undergraduate experience by providing broad exposure to multiple disciplines, complementing the major and helping students develop important reasoning, inquiry, and civic capacities.

For a description about the requirements and for a listing of UNL's general education program (effective AY 2009-10), Achievement-Centered Education (ACE), see page 17.

Important rules to remember when selecting course work to meet this requirement:

1. There are 10 ACE Student Learning Outcomes (SLO) and at least one course, equivalent to 3 credit hours, must be taken for each of the 10 SLO's.
2. Up to three ACE Student Learning Outcomes (SLO), 4-10, may be satisfied by work in one subject area;
3. ACE SLO's must be satisfied by work in at least three subject areas;
4. No ACE course may satisfy more than one ACE SLO in a student's program;
5. If an ACE course addresses two ACE SLO's, the student decides which one of the two outcomes the course will satisfy in that student's program. (The degree audit will make an automatic decision based on first course taken; first SLO needed.)
6. While the College of Business Administration has several non-business and business courses specifically required for the business degree, many courses will also work for ACE. Students should carefully review required course work with ACE options to make the best use of courses.

### Non-Business Requirements (NBR) – Eight Courses (normally 24-26 hours)

This section requires completion of a number of required non-business courses for the degree. Many satisfy ACE outcomes and for others, students will have an option to select courses according to their personal interests.

### Business Core – Four Sections (approximately 56-69 hours)

**Business Core Foundation (BCF)** – 17 hours  
(1 hour not applicable toward 120 hours)

**Business Core Intermediate (BCI)** – 18 hours

**Business Core Advanced (BCA)** – Major  
(hours vary)

**Business Core Advanced (BCAC)** – Capstone–  
(3 hours + 0 hour assessment)

The foundation and intermediate courses are designed to expose students to the various business disciplines. The advanced courses are those courses identified for each of the nine different majors, and the capstone courses are courses for the final semester of the program.

## Electives – Hours Vary

Electives round out the rest of the 120 hour curriculum where students have the option to choose courses toward a second major, a dual degree, a minor (or two); or, students can simply select courses of personal interest.

1. Some of these hours may need to be additional business course work (to meet the requirement that 60 hours of course work be in business). This requirement will vary by major.

2. There may be a need to enroll in an international business course requirement (IBCR) if not taken as part of the major.

3. A minimum of 12 hours of 300/400 upper-level elective course work (not counting anywhere else in the program (non-business/foundation/core) is required for most majors to ensure depth is achieved through enrollment in elective hours.

4. If not completed through the other area requirements, any remaining ACE requirements will need to be completed as required electives.

Completion of the College of Business Administration's curriculum requirements can best be achieved by understanding the following sections of the bulletin and utilization of the student's degree audit (DARS), which can be accessed on WAM. This computerized report summarizes degree requirements, alerting the student to courses completed and those yet to complete.

The following sections of the bulletin complement the outline format of the DARS. Students should print their DARS and compare it with the following to determine the appropriate selection of course work over the next four years. If students have questions, they should be sure to bring their DARS and bulletin to see an adviser in the Dean's Office for Undergraduate Programs, CBA 138.

## DARS

### Important Message about DARS

Following instructions at the beginning of your DARS is a box that will say one of two things:

1. **AT LEAST ONE REQUIREMENT HAS NOT BEEN SATISFIED.** This instruction tells you that course work is yet to be completed for your degree.

2. **ALL REQUIREMENTS COMPLETED-IN PROGRESS COURSES USED.** This is the indication you will want to see once you have registered for your final semester of course work.

In other words, DARS verifies your intent to graduate. If you do not see this message in your final semester, you have not completed or are not enrolled in the right courses. Your DARS will tell you what is wrong (using the notation of a 'NO', a minus sign [-], and the requirement in 'red' type.) Make the necessary correction to your schedule immediately.

## College Entrance Requirements

College Entrance Requirements are the same as the University's which are described on page 6 of this bulletin. This section of your DARS will either be collapsed noting an "OK" (which means you do not have any entrance requirements) or a "NO" will appear, which means you have one or more entrance deficiencies. A minus sign (-) will appear in front of the subject area for which you have a deficiency, along with a listing of courses you can select from to remove the deficiency.

The College of Business Administration expects deficiencies to be removed within the first 30 hours of course work. Remember, course work to remove deficiencies is NOT applicable toward college degree requirements.

You are informed of any entrance deficiencies at the time of admission.

## Non-Business Requirements (NBR)

### - Eight Courses

The next section of your DARS is a listing of eight non-business requirements (NBR) for your degree. Unless otherwise noted, most courses are 3 credit hours.

A "NO" will appear at the top of this section on your DARS, along with any minus signs (-) to indicate course work remaining to complete before you graduate. As you complete each requirement, a plus sign (+) will appear and eventually an "OK" will appear at the top of the section to indicate that you have met all requirements.

Your DARS also reminds you that "No course may be taken on a P/NP basis (Pass/No Pass)" in this section. In addition, many courses used to satisfy this section may also satisfy the UNL ACE requirements.

With the exception of NBR 7 and NBR 8, which require sophomore standing, you will complete most of these courses during the first and/or second semester of your freshman year and finish others during the sophomore year. ENGL and MATH are of highest priority and should be done your first semester.

Raikes students will complete a different set of requirements and should work with their Raikes adviser in the identification and sequencing of appropriate courses.

Actuarial science majors will also take three additional courses—CSCE 150A and MATH 107 and 208 (12 hours) in this section of the requirements.

### NBR 1: Written Communication (ACE 1):

*Choose ONE of the following:*

ENGL 101 Writing: Rhetoric and Reading

ENGL 150 Writing: Rhetoric as Inquiry

ENGL 151 Writing: Rhetoric as Argument

Refer to the course descriptions to select the **one** course best suited to your individual interests. While several communication courses can be selected to fulfill the ACE 1 outcome, one of the above is a specific requirement for the College of Business Administration.

### NBR 2: Mathematical, Computational, Statistical or Formal Reasoning Skills (ACE 3):

*Choose ONE of the following:*

MATH 104 Calculus for Managerial and Social Sciences (3 cr)

MATH 106 Analytical Geometry and Calculus I (5 cr)

Any advanced calculus course above the 106 level

Whether you are required to enroll in preparation course work first (as indicated on the MP—MATH 95c, 100A, 101 and/or 103) or if you are qualified to begin in one of the required courses, it is critical to begin MATH your first semester on campus.

Actuarial science majors and Raikes students must take MATH 106 (or higher). As noted above, actuarial science majors will also take MATH 107 (5 cr) and MATH 208 (4 cr) and CSCE 150A (3 cr).

While several courses can be selected to fulfill the ACE 3 outcome, one of the above is a specific requirement for the College of Business Administration.

### NBR 3: The Study of Scientific Methods and Knowledge of the Natural and Physical World (ACE 4):

This is one of your ACE Student Learning Outcomes (SLO) requirements from which you can choose your course, rather than being required to take a specific class. You must choose your course from the approved list of ACE SLO 4 courses. A listing of classes can be found on page 383 of this bulletin. You must complete one course, equivalent to a minimum of 3 credit hours. (Some classes may be 4 credit hours.)

### NBR 4: Study of Humanities (ACE 5):

As noted above, this is another ACE SLO requirement from which you can choose your course. One course must be selected from ACE SLO 5 and equivalent to a minimum of 3 credit hours, to fulfill this requirement. A listing of classes can be found on page 383 of this bulletin.

### NBR 5: Study of the Arts to Understand Their Context (ACE 7):

See notations above identifying a course for ACE SLO 7.

### NBR 6: Global Awareness or Knowledge of Human Diversity Through Analysis of an Issue (ACE 9):

As noted above, the same rules apply for ACE SLO 9. As a new student, you may select a course of your choosing. If you are coming in with junior standing (or more), you will see that the list of approved courses includes a few business courses. While this section is labeled "non-business requirements," you may elect to enroll in one of the business courses to fulfill the ACE SLO 9 requirement as long as you have the prerequisites. If you elect to do this, you need to work closely with your adviser to bring this to their attention and to question how this course may potentially satisfy another requirement for your degree (such as a course for your major).

### NBR 7: Business Communication (ACE 1):

JGEN 220 Business Communication Strategies (previously JGEN 120)

This is a business writing course with sophomore standing as a prerequisite. While it is also an ACE 1 course, as is ENGL, BOTH ENGL and JGEN are specific requirements for the College of Business Administration.

### NBR 8: Oral Communication Skills (ACE 2):

COMM 286 Business and Professional Communication (previously COMM 311)

Sophomore standing is a prerequisite to enroll in this oral business speaking class; and while several other courses may be selected to fulfill the ACE 2 requirement, COMM 286 is a specific requirement for the College of Business Administration.

In the selection of course work for any of the above NBR's, prerequisites, when stated anywhere in this bulletin, means course work MUST BE COMPLETED to enroll in the class. Concurrent enrollment in any identified prerequisite(s) is NOT permitted unless so indicated in the course description.

## BUSINESS CORE – Four Sections

The next four sections of your DARS is a listing of business requirements identified by the foundation (introductory business course work), intermediate business courses (an understanding of all fields of business), advanced classes for your specific major, and a final capstone section.

A "NO" will appear at the top of each section on your DARS, along with any minus signs (-) and notations in 'red' to indicate course work remaining to complete before you graduate. As you complete each requirement, a plus sign (+) will appear and eventually an "OK" will appear at the top of each section to indicate that you have met all requirements.

Your DARS also reminds you that "No course may be taken on a P/NP basis (Pass/No Pass)" in any of these sections. (BSAD 101 and 150 are two exceptions to this ruling.) In addition, courses used to satisfy these sections may also satisfy the UNL ACE requirements. Furthermore, there are restrictions on the transfer of course work from other institutions. Refer to each section for limitations and also to page 222 of the transfer section of the CBA portion of this bulletin.

Raikes students will complete a different set of requirements and should work with their Raikes adviser in the identification and sequencing of appropriate courses.

Actuarial science majors may elect to take ACCT 306 for 4 credit hours instead of 201 and 202.

Sequencing is critical in the Foundation and Intermediate section to prepare for your major (advanced). Follow guidelines noted within each section.

And, as noted above, in the selection of course work for any course work in the Core, prerequisites means course work MUST BE COMPLETED to enroll in the class. Concurrent enrollment in any identified prerequisite(s) is NOT permitted.

**Business Core Foundation (BCF)****- Seven Courses (17 hours)**

The next section of your DARS is a listing of seven requirements for the business core foundation (BCF).

With the exception of BSAD 101 and 150, which are 1 credit hour each of Pass/No Pass credit, all courses are 3 credit hours and must be taken for a grade. While BSAD 101 will count toward the 120 hour requirement; it, along with BSAD 150 will not count toward the requirement that 60 hours of the entire program must be in business. BSAD 150 will also NOT count toward the 120 hours for the degree.

You will enroll in these courses during your freshman and sophomore year as so noted by recommendations under each course.

**BCF 1 – BSAD 101 Business Leadership Development (1 hr)**

This 1-credit-hour course (offered Pass/No Pass only) is required of all new freshmen. This course is an active exploration, examination, and pursuit of fundamental concepts and principles of leadership development and how they relate to all fields within business administration. Also covered is a broad orientation to all domains of business administration, including activities, assignments, and exercises.

Take this course your first semester.

BSAD 101 is waived for Chancellor's Leadership, Raikes, and transfer students who have completed 27 hours.

**BCF 2 – BSAD 150 Business Computer Applications (1 hr-not applicable to degree)**

BSAD 150 is a required basic-skills computer course, and it is designed to make sure that every CBA student knows how to use Access, Microsoft Word, PowerPoint, and especially Excel well enough to complete assignments in future CBA courses. During class sessions, students will complete group projects and take group tests. Attendance virtually guarantees a pass for the course.

This 1-credit-hour course (offered Pass/No Pass only) is not applicable toward the 120 hours for the degree.

Advanced computer applications students may wish to attempt the *Credit by Exam* option instead of taking the class. Refer to the BSAD 150 Web site for additional information: [www.cba.unl.edu](http://www.cba.unl.edu) under Business Administration.

**BCF 3 – ACCT 201 and 202 Introductory Accounting I & II (3 hrs ea)****ACCT 201. Introductory Accounting I**

The introductory courses are sequential; take 201 first semester of your sophomore year, pending a 2.5 cumulative GPA and 27 completed hours; or as a freshman, pending completion of MATH 104 with a grade of C or better, and a 2.5 cumulative GPA earned in 14 hours of UNL credit.

Actuarial science majors may elect to take ACCT 306 (4 hrs) instead of 201 and 202.

**ACCT 202. Introductory Accounting II**

Accounting is sequential; take 202 following completion of ACCT 201 with a grade of C, and a 2.5 cumulative GPA with 27 completed hours.

You will also need a grade of C in ACCT 202 if you intend to take additional accounting courses.

**BCF 4 – ECON 211 and 212 Principles of Macro and Microeconomics (ACE 8/6) (3 hrs ea)****ECON 211. Principles of Macroeconomics**

The introductory course work is NOT sequential and are generally taken during the sophomore year. However, you may also opt to take either course your freshman year pending earned credit in 14 semester hours of UNL credit.

**ECON 212. Principles of Microeconomics**

See notes above.

**BCF 5 – ECON 215 Statistics (ACE 3) (3 hrs)****ECON 215. Statistics**

Taken during the first or second semester of the sophomore year, pending completion of the prerequisite courses: BSAD 150 and MATH 104 or 106; 27 completed hours; and a 2.5 cumulative GPA. CBA students **MUST** take ECON 215—not STAT 218.

Furthermore, except for actuarial science majors, there are other statistics-based courses that you CANNOT take as they are considered duplicate credit to ECON 215. Please read any statistics course description to avoid duplication of course work.

Actuarial science majors will take STAT 380 instead of ECON 215. They will also take STAT 462 and 463 in this section.

**Business Course Intermediate (BCI) – Six Courses (18 hours)**

The next section of your DARS is a listing of six requirements (3 hours each) for the business core intermediate (BCI) which are required of all business students regardless of major.

Enrolling during your sophomore and junior year, the order in which you take these courses makes no difference and all could be taken in the same semester, but there are some recommendations/restrictions as noted here:

1. The prerequisites vary for each class so the classes have been listed here in order of those which have the fewest to the most prerequisites. However, in your planning, be sure that you look ahead now to those near the end of the list and plan for completion of any remaining prerequisites in a timely manner. Meanwhile, during your sophomore and junior year, enroll in courses near the beginning of the list as soon as you have met the prerequisites.
2. The management courses are all different so, while they can be taken in the same semester, many students choose one or two for each semester.
3. If you have identified a specific major, particularly MRKT or FINA, you should consider those courses in that discipline first (providing you meet prerequisites) to keep in sequence for course work for your major.

4. There are exceptions to these requirements for specific majors (ACCT, MRKT, ACTS). Please note those exceptions under the courses.

5. If transferring, a maximum of 9 hours may apply with further restrictions on applicability.

**BCI 1 – BLAW 371 Legal Environment or BLAW 372 Business Law (3 hrs)**

Sophomore standing, the math requirement, and a 2.5 GPA is required to enroll in BLAW 371. Accounting majors **must** take BLAW 372, which has other prerequisites.

Take this course during the sophomore or junior year.

**BCI 2 – MNFT/MIST 350 Introduction to Management Information Systems or MRKT 350 Introduction to Marketing Information Systems**

Sophomore standing, 2.5 GPA, and completion of BSAD 150 is required to enroll in this course.

Marketing and agribusiness majors may choose to take MRKT 350, which carries an additional prerequisite of MRKT 341 and ECON 215.

Take this course during your sophomore or junior year (as soon as the prerequisites are done).

**BCI 3 – FINA 361 Finance (3 hrs)**

Sophomore standing; 2.5 GPA; ACCT 201 (or 306); ECON 211 (or 210); MATH 104 (or 106); and ECON 215 (or STAT 218) are prerequisites to enroll in this course.

Take this course during your sophomore or junior year (as soon as the prerequisites are done).

Finance majors will want to take this course as soon as possible (pending completion of prerequisites) to stay on sequence with the major.

Actuarial science majors will take FINA 461 instead of 361.

**BCI 4 – MRKT 341 Marketing (3 hrs)**

Sophomore standing; a 2.5 GPA; and ECON 211 and 212 are prerequisites to enroll in this course.

Take this course during your sophomore or junior year (as soon as the prerequisites are done).

Marketing majors will want to take this course as soon as possible (pending completion of the prerequisites) to stay on sequence with the major.

**BCI 5 – MNFT 331 Operations and Supply Chain Management (3 hrs)**

While junior standing, a 2.5 GPA, and ECON 215 are specific prerequisites for this course, it is also expected that CBA students will have completed non-business requirements in communications and math and the Business Core Foundation to enroll in this course.

**BCI 6 – MNFT 360 Managing Behavior in Organizations (ACE 6) (3 hrs)**

While junior standing and a 2.5 GPA are specific prerequisites for this course, it is also expected that CBA students will have completed non-business requirements in communications and math and the Business Core Foundation to enroll in this course.

## Business Core Advanced (BCA)

### - (18-31 hours)

At this point in the program, faculty expect that course work required up to this point in time has been completed, particularly freshman and sophomore requirements, as well as any specific course prerequisites.

Students may pursue a major in accounting, actuarial science, agribusiness, business administration, economics, finance, international business, management, or marketing.

Course work for the major requires completion of specific courses, along with other guidelines. Refer to the departmental section for a listing of requirements and hours. Courses for the major are not necessarily available every semester (particularly summer), and thus, planning for the major course work should start prior to the junior year.

Actuarial science, agribusiness, and accounting majors are likely to begin course work for their major before the junior year; all others will enroll during the junior/senior year.

Other notes of importance regarding the major:

- a. ALL course work for the major must be taken for a grade (no Pass/No Pass);
- b. ALL majors require 21 hours except agribusiness, actuarial science, marketing, and international business;
- c. Students may elect to take their International Business Course Requirement (IBCR) (described later) as part of their major;
- d. Although a 2.5 GPA is not required to take these courses, a 2.5 is required to apply for graduation; thus, students are expected to maintain this level throughout their collegiate career;
- e. Sequencing of classes is critical, particularly for agribusiness, actuarial science, and international business; plan the major courses well in advance of enrollment.
- f. By this point in time, the curriculum was designed for you to have completed your ACE SLO's (except ACE 10) through other course work, but if you are still missing an ACE SLO 6, 8, or 9, you may be able to take something in your major.
- g. A maximum of 9 hours of course work may transfer if the 50% rule has not been exceeded. Further restrictions may apply.

## Business Core Advanced (BCAC) – Capstone – Two Courses (3 hours)

The final section of the Business Core includes course work required in your final semester of your enrollment in CBA (senior year, last semester).

## BCAC – 1 MNGT 475 Business Policies and Strategies (ACE 10) (3 hrs)

Reserved for graduating seniors, this course requires the Business Core Foundation (BCF), Intermediate (BCI) to be completed for enrollment. It is your capstone course that integrates everything you have learned in business.

This course MUST be taken at UNL.

## BCAC – 2 BSAD 098 Senior Assessment (0 hrs)

This is a 0 credit-hour seminar required of ALL CBA graduating seniors. Taught via Blackboard, this course assesses your learning over the past four years of the program, as well as surveys your senior/future plans. You are required to register and pass this course in your final semester in order to graduate from the College of Business Administration.

## Other Requirements

### International Business Course Requirement (IBCR)

On your degree audit, following the Business Core sections, you will find the IBCR requirement. This section will say "NO" and indicate a minus sign (-) until you complete this requirement, at which point it will change to "OK" and (+).

As with other requirements in the college, the IBCR may not be taken Pass/No Pass.

The international business course requirement is to broaden the student's international perspective. Each student, excluding accounting majors, must include one course which emphasizes an international perspective.

The course must be chosen from the following approved list of International Business Course Requirement (IBCR) courses. Many of these courses have prerequisites. Some are restricted for study abroad and others may only be offered once a year. Thus, you are advised to plan ahead in scheduling this requirement into your program.

If planned carefully, your IBCR course can count in two places. It is not an extra 3 hours of credit, but rather, is 3 hours embedded within other requirements. You can count the course for your IBCR and, if selected carefully, it can also count for 3 hours of credit in your major (i.e. MRKT 453 counts for MRKT elective in MRKT major and would count for the IBCR; FINA 450 counts for FINA elective in FINA major and would fulfill the IBCR as well; etc.). On the other hand, if you have already identified other course work for your major and/or you wish to take a different departmental IBCR course, the course can count in your electives, for which you will have several electives of your choosing, including business electives.

ACCT/FINA/MNGT/MRKT 429<sup>1</sup>. Undergraduate Seminar in Japanese Business (6 hrs)

BSAD 491<sup>2</sup>. International Studies in Business & Economics (1-15 hrs)

ECON 321. International Economics

ECON 322<sup>3</sup>. Developmental Economics

ECON 323<sup>3</sup>. Economic Development of Latin America

ECON 388<sup>3</sup>. Comparative Economics Systems

ECON 421. International Trade

ECON 422. International Finance

ECON 423. Economics of Less Developed Countries

ECON 440. Regional Development

ECON 466<sup>4</sup> and 467<sup>4</sup>. Pro-Seminar in International Relations I & II

ECON 487<sup>5</sup>. Economics in Transition

FINA 450. International Finance

MNGT 428. International Management

MRKT 453. International Marketing (requires 6 hrs of MRKT prerequisites)

## 300/400 Upper-level Requirement

As part of the remaining degree requirements, which will consist of elective course work, 12 hours must be taken at the 300/400 level, as so noted on the next section of your DARS.

A "NO" will appear at the top of this section on your DARS, along with any minus signs (-) to indicate course work remaining to complete before you graduate. As you complete each requirement, a plus sign (+) will appear, but it will also indicate how many courses/hours are still needed; eventually an "OK" will indicate that you have met the 300/400 upper-level requirement.

1. This can be business or non-business courses.
2. You may NOT count any business course work from the Business Core Intermediate (BCI) or Advanced (BCA or BCAC) from your FIRST major in this section. You MAY count any course work being used toward a second business major and/or business minor(s).
3. You may NOT count any required non-business course work (BCR) you may have selected at the 300/400 level to fulfill this requirement.
4. Your DARS also reminds you that "No course may be taken on a P/NP basis (Pass/No Pass)."
5. Actuarial science majors and Raikes students do not need to meet this requirement due to the additional hours at the 300/400 level required for your major/program.

## Business Course Hours

Sixty (60) hours of business courses are required for the BSBA degree and your DARS will continue to reflect a "NO" at the top of this section and it will report how many hours you have completed and how many hours you have left to take.

1. THIS NUMBER WILL VARY BY MAJOR and you will need to determine that number by accounting for how you completed hours in the following sections: Count hours in the Business Core Foundation (excluding BSAD 101 and 150)—normally 15 hours; add hours you took Business Core Intermediate—normally 18 hours; plus hours for your major (business courses only), which is most instances is 21 hours; and add the Business Core Advanced Capstone of 3 hours. If you do all the requirements as stated above (15 + 18 + 21 [most majors] + 3 = 57 hours), you would need 3 more hours of business electives. The following likely would apply but you ALWAYS need to refer to your DARS for the final assessment of needed hours:

- a. ACCT, ECON, FINA, BSAD majors – 3 hours of elective course work must be from business.
- b. MRKT – 6 hours of elective course work must be from business (as your major is only 18 hours).

<sup>4</sup> These courses are generally available for only those students studying in the Nebraska at Oxford summer study abroad program.

<sup>1</sup> Available only for students in the Nebraska at Senshu fall exchange program; 3 hours applicable for FINA, MNGT major; 6 hours applicable for BSAD or IBUS major.

<sup>2</sup> Available only for students seeking to obtain credit for upper-level business course work taken abroad for which there is no direct UNL equivalency.

<sup>3</sup> These courses are not offered on a regular basis.

- c. IBUS – this will vary depending on the number of ‘international business courses’ selected for your major; a minimum of nine is required so you could need up to 15 hours of elective course work from business (15 + 18 + (business hours in your IBUS major) + 3 + business electives = 60 hours of business credit).
- d. ACTS – no additional business course work as your major consists of 28 hours of business course work.
- e. ABUS and RAIK – no additional business course work required due to intent of major as being ‘business-related’ course work.
- 2. If you are required to take one or more courses, these must be taken for a grade unless it meets exceptions as noted on page 224 for independent study/special topics options.
- 3. The number of hours may also be influenced by the number of transfer business hours as a maximum of 30 hours is permitted, along with the additional BCI and BCA limitations.

### Elective Hours

The remainder of your course work of your choosing provided you have met all of the above described requirements.

1. Check your ACE section of DARS. If something is still missing, you will need to take remaining ACE requirements as electives.
2. If you did not complete your IBCR in your major (except ACCT), you will need to take that course as an elective (but can count as a business elective). This will always be true for ACTS and ABUS majors—you must have an IBCR.
3. 12 hours of your elective hours must be taken at the 300/400 upper-level (except ACTS, RAIK). None of these 12 hours can be part of ACE SLO’s.
4. Most students will average 35 hours of elective credit. Most second majors are 21 and thus, it is fairly easy to pursue a second major; or, minors range from 12-24 hours and it may also be easy to consider using elective hours toward one or two minors.
5. The number of elective hours depends on the number of hours taken for each of the other sections of the requirements described above. Plan carefully to ensure that no matter what, when you are ready to graduate, that you have 120 hours of degree-applicable credit to graduate.

### ACE: Achievement-Centered Education

The next section of your DARS will outline the 10 ACE Achievement-Centered Education Student Learning Outcomes (SLO). As noted throughout the previous sections, these requirements should have automatically been completed as a result of you taking both your business and non-business requirements.

Check to be sure. Your DARS will continue to reflect a “NO” at the top of this section and a minus sign (-) will appear in front of each ACE outcome until you have taken a course to meet each outcome. A plus sign (+) indicates you have completed the appropriate outcome and an “OK” will reflect at the top when all are complete or in progress (IP).

### Other Rules

The remaining sections of your degree audit remind you of some of the policies outlined in previous sections of the bulletin and serve mostly as reminders of things you need to do to graduate or to warn you of restrictions or violations of policies. The most common ones outlined on DARS include:

1. **Community College Transfer Credit –** reminding you that a maximum of 66 hours may transfer (same is true for international schools). If you exceed this rule, a notation will indicate how many additional hours beyond the 120 hours is required to complete for your degree.
2. **General Graduation Requirements**
  - a. A reminder that you need a 2.5 GPA to apply for graduation.
  - b. 30 of your last 36 hours must be taken at UNL (you cannot take your last year of course work [basically no more than 6 hours] at another institution—unless studying abroad).
  - c. You may complete a maximum of 9 hours of Pass/No Pass credit (excluding BSAD 101 and 150).
  - d. You need 120 hours to complete the degree but all sections of the degree audit must be completed to graduate; thus you may need more hours to complete the degree.
3. **Courses Which Do Not Count Toward Graduation** – a warning of the credit that does not count due to skills-based course work, duplication of credit, deficiencies, etc.

### Legend

The legend at the end of your degree audit is an excellent resource for understanding the codes used throughout the degree audit.

### Courses Which Do Not Count Toward Graduation

Any skills-based courses, such as LIBR 110 and BSAD 150, will not be counted toward graduation requirements. No credit for graduation is allowed for high school deficiency courses (such as MATH 95C and MATH 100A), or for any course designated by the College or University as not applicable toward degree requirements or noncredit-based classes. College-level courses taken to satisfy an admission deficiency do not count for credit towards the program.

Examples of additional restrictions include duplication of credit, grades of D or D- from other institutions, and any restrictions noted specifically by departments. An example would be credit not permitted for both MATH 104 and 106; nor HIST/POLS 105 and HIST 201, 202; nor POLS 100; a 2.5 GPA for the business core (except economics). With reference to transfer credit, at least 50% of business core and 50% of the major must be done at UNL.

A maximum of 9 hours of Pass/No Pass credit may be used only in electives, and a maximum of 14 hours of military credit.

Notations on your DARS will alert you to any concerns regarding courses which do not count toward graduation.

### Community College Transfer Credit

#### -66 hour limit

This section of DARS will appear only if transferring credit from a community college.

As described in the Transfer Student Section (page 222), a maximum of 66 hours may transfer from a community college or international institution. Any restrictions regarding acceptance of hours beyond this are outlined on the DARS and additional hours may be required for the degree.

### General Graduation Requirements

Refer to your DARS for notations regarding requirements. For example, a minimum 2.5 cumulative GPA is required to apply for the degree. Other requirements are outlined in previous sections.

A minimum of 30 of the last 36 hours of credit needed for the degree must be registered for and completed in residence at the University of Nebraska-Lincoln. Courses offered through the College Independent Study option (Extended Education) and summer reading courses count against residency.

A maximum of 9 hours of Pass/No Pass credit is allowed in electives. Restrictions and enrollment for this credit is described on page 224.

A minimum of 120 hours of applicable credit is required for the degree. On DARS, this number needs to be compared with the rest of the DARS to be sure all Modules are completed not just necessarily the number of hours.

### Course Sequence Example

#### First Year-Freshman

BSAD 101, 150<sup>5</sup>  
ENGL 101 or 150 or 151  
MATH 104 (or 106)  
ACE 4, 5, 7, 9  
Electives  
**Total: 30 hours**

#### First or Second Year-Freshman/Sophomore Options

ACCT 201<sup>6</sup>  
ECON 211 and 212<sup>6</sup>

#### Second Year-Sophomore

ACCT 201 (*if not taken as freshman*) and 202  
ECON 211 and 212 (*if not taken as freshman*)  
ECON 215  
JGEN 220 and COMM 286  
ACE and/or Electives  
**Total: 30 hours**

#### Second or Third Year-Sophomore/Junior Options

BLAW 371 (*non-accounting majors*)  
MNGT 350  
FINA 361  
MRKT 341

<sup>5</sup> This one-hour course is required for the degree, however, the credit does not count toward the 120-hour degree requirement.

<sup>6</sup> Optional during freshman year: ACCT 201 upon completion of MATH 104 with a grade of C or better, 2.5 GPA and 14 hrs of UNL credit; ECON 211 or 212 upon completion of 12 hrs of earned UNL credit.

**Third Year-Junior**

BLAW 371 (*if not taken as sophomore*) or BLAW 372 (*accounting majors only*)  
 MNGT 350, FINA 361, MRKT 341 (*if not taken as sophomore*)  
 MNGT 331 and 360  
 Departmental Major Requirements  
 ACE and/or Electives (*300/400 level if not done*)  
**Total: 30 hours**

**Fourth Year-Senior**

Major Requirements  
 Business Electives  
 IBCR (*if not taken in major*)  
 ACE and/or Electives (*300/400 level if not done*)  
 MNGT 475 Business Policies & Strategies (*final semester*)  
 BSAD 098 Senior Assessment (*final semester*)  
**Total: 30 hours**

## Programs and Departments

### Jeffrey S. Raikes School of Computer Science and Management

Raikes School students majoring in one of the CBA departments must take RAIK 181 through 188 and 281 through 288, 381, 382, and STAT 218. As a consequence, the following changes are made in CBA requirements. BSAD 101 and 150 are waived. JGEN 220 and COMM 286 are waived. FINA 361, MNGT 350, 331, and 475 are waived. The major is the same.

## Accounting

### Accounting and Business Law

**Director:** Professor Paul Shoemaker  
**Professors:** Brown, Chen, Smith  
**Associate Professors:** Allen, Lawrence, Ruchala, Shoemaker  
**Assistant Professors:** Crabtree, Gao  
**Assistant Professor of Practice:** Cosgrove

The School of Accountancy is separately accredited by the Association to Advance Collegiate Schools of Business (AACSB). Our mission is to foster intellectual curiosity, business insight, and professional expertise through high quality learning experiences, research, and service to students, the accounting profession, the citizens of Nebraska, and national and international communities. Our educational objective for our undergraduate students is to create a learning environment where students attain a general education, business and accounting knowledge, interpersonal skills, communication skills, analytical skills, and critical thinking skills, directly or in conjunction with a well-designed business curriculum, as a foundation for career development.

### Accounting Major

**All course work for the major must be taken for a grade (no Pass/No Pass).**

In addition to the general 6-hour requirement of ACCT 201 and 202 (or 306, for 4 credit hours, by permission only), students interested in an accounting major may elect to pursue the four- or five-year program. All courses, with the exception of ACCT 399, must be taken for a grade (no Pass/No Pass). Since the expected sequence of accounting courses for either program depends on individual career goals, students are strongly advised to consult with their faculty adviser prior to enrolling in courses.

For example, ACCT 201, although normally taken during the sophomore year, is open to freshman students who have completed MATH 104 with a grade of C or better, have a 2.5 cumulative GPA and have earned 14 hours of credit. If selected as a freshman, upper-level work normally taken the 3rd year can then be taken as a sophomore.

Other than the exception noted above, the major courses are completed during the junior and senior year. Summer sequencing is difficult and scheduling should be planned a year in advance.

Accounting majors are waived from the IBCR (International Business Course Requirement).

**It is extremely important for those students planning to pursue careers as certified public accountants to carefully plan their program. Most states require 150 semester hours of course work with a minimum number of hours in accounting to take the CPA exam, and, consequently, these students are encouraged to pursue the 5-year program leading to a master of professional accountancy degree. Since specific eligibility requirements vary from state to state, interested students should contact their state Board of Accountancy or the Director of the School of Accountancy.**

The courses required during the first three years are the same for both the four-year and five-year program. They include:

	Hours
ACCT 308 Managerial Accounting.....	3
ACCT 309 Accounting Systems.....	3
ACCT 313 Intermediate Accounting I.....	3
ACCT 314 Intermediate Accounting II.....	3
BLAW 372 Business Law I <sup>7</sup> .....	3
	<b>Total 15<sup>7</sup></b>

Prior to their fourth year in the program, students have the option to pursue and complete the four-year program or to request permission to enter the five-year program. To enroll in the accounting program leading to a bachelors degree at the end of four years (120 hours), students will complete the general college requirements and a minimum 24 hours (which includes completion of BLAW 372) of accounting required for a major, plus any chosen electives. This leads to the bachelor of science degree in business administration with a major in accounting. These hours consist of those courses listed above (15 hours), as well as the

<sup>7</sup> The sophomore year courses consist of only the general college requirement of 201 and 202. The courses listed above are to be taken the junior year with 308 and 313 expected to be completed the first semester and 309 and 314 the second semester. Freshmen completing 14 hours of credit with a 3.5 GPA have permission to begin the sequencing of accounting courses earlier.

following courses (9 hours) which are to be completed during the fourth year<sup>8</sup> of the program:

	Hours
ACCT 410 Auditing.....	3
ACCT 412 Federal Tax Accounting I .....	3
Advanced Accounting Elective.....	3
	<b>Total 9</b>

Although it is not required, students interested in completing additional accounting courses as electives in their programs may select the following:

ACCT 404. Advanced Accounting
ACCT 408. Advanced Managerial Accounting

Students interested in applying for the five-year program, which leads to a masters of professional accountancy (MPA), should apply for and be admitted to the graduate program after they have obtained senior standing and have completed the accounting courses normally required in the junior year (ACCT 308, 309, 313, 314, and BLAW 372). This process requires submission of a graduate application, three letters of recommendation, two official transcripts, and results of the Graduate Management Admissions Test.

Students granted permission to enter the five-year program will complete 150 hours of course credit. This program would consist of the general requirements as set forth by the College for the bachelors degree, as well as the 15 hours of accounting/business law credit (listed above) to be taken during the junior year (ACCT 308, 309, 313, 314, and BLAW 372). During the fourth year of the MPA program, students will take the following courses:

	Hours
ACCT 410/810 Auditing.....	3
ACCT 412/812 Federal Tax Accounting.....	3
Advanced Accounting Elective.....	3
	<b>Total 9</b>

The advance accounting elective required for the BSBA degree should be taken from the following courses:

	Hours
ACCT 404/804 Advanced Accounting.....	3
ACCT 408/808 Advanced Managerial Accounting.....	3
	<b>Total 6</b>

An important note is the 6 hours of senior level accounting courses must be completed under the graduate number. Students should see the MPA adviser for details.

During the fifth year of the MPA program, students are required to complete:

	Hours
ACCT 803 Seminar in Accounting Theory.....	3
ACCT 831 Seminar in Auditing.....	3
ACCT 857 Controllership or 858 Seminar in Managerial Accounting .....	3
Accounting 900 level (or 800 level with no 400-level counterparts) .....	6
Additional graduate-level course work to meet minimum 150 hours.....	12

Additional requirements such as submission of a program and application for final degree, should be completed during the fifth year of the program. Students should contact the MPA adviser for additional information. Students' registration forms must be signed by the MPA adviser each semester.

<sup>8</sup> ACCT 410 and 412 should be completed the first semester followed by the advanced accounting elective.

The courses in accounting are designed to give business students a basic proficiency in accounting as an analytical tool for understanding business and public affairs and to develop essential theory and application for those specializing in the field. Students who complete the College of Business Administration program with a major in accounting and/or the master of professional accountancy, are well prepared to accept positions in industry, commerce, government service, or public accounting.

Since both managerial accountants and certified public accountants serve as consultants and advisers to business management and public officials, courses that provide an educational foundation for this consulting and advising should be included in an accounting program. Remaining electives should be balanced between additional accounting courses and courses selected from applied mathematics and quantitative techniques, data processing and systems, economic analysis, management theory, and behavioral sciences, as well as advanced courses in the functional areas of business (i.e., finance, marketing, personnel, production).

## Accounting Minor Requirements

The accounting minor is available to **College of Business Administration students only**. Accounting course work used for this minor **cannot** be double counted toward business degree requirements (with the exception of business electives), another major, or other business minor requirements.

To fulfill the requirements for an accounting minor, students must complete twelve graded hours of accounting course work (no Pass/No Pass) to include the following: ACCT 308, 309, 313, and 314.

## Courses of Instruction

All students enrolling in CBA courses are required to meet the prerequisites listed for each course, including any specific grade or GPA requirement, to include junior standing for enrollment in 300 or 400-level business courses, except where noted otherwise.

Permission, as a prerequisite for any course, is intended to mean the approval of the instructor teaching the course. **All accounting prerequisite courses must have been completed with a grade of C or better unless special permission is obtained from the director.**

No accounting course may be taken Pass/No Pass, except ACCT 399, which counts only as an elective. ACCT 399 may be taken on a Pass/No Pass basis with the approval of the instructor and the director.

All 800- and 900-level courses are open to graduate students; 800-level courses may be taken by undergraduate students with permission.

## Accounting (ACCT)

**201. Introductory Accounting I (3 cr) Prereq: Sophomore standing and 2.5 GPA, or freshman standing and 3.5 GPA over at least 14 credit hours earned at UNL.**

Develops fundamentals of accounting, reporting, and analysis that are helpful in understanding financial, managerial, and business concepts and practices, and provides the foundation for many advanced courses in the College.

**201H. Honors: Introductory Accounting I (3 cr) Lec 3. Prereq: Good standing in the University Honors Program or by invitation; freshman standing; 3.5 GPA over at least 14 credit hours earned at UNL.**

For course description, see ACCT 201.

**202. Introductory Accounting II (3 cr ea) Prereq: Sophomore standing; ACCT 201 with grade of C or above; and a 2.5 cumulative GPA.**

Continuation of ACCT 201.

**306. Survey of Accounting (4 cr) Prereq: Except for the 53-hr requirement, the junior standing prerequisite is waived. ACCT 306 is not open to students who have credit in ACCT 201 and/or 202. A one-semester course for students above the sophomore level who desire a knowledge of the fundamentals of accounting.**

Fundamentals of accounting analysis which are most helpful in understanding managerial and business concepts and practices.

**[IS] 308. Managerial Accounting (3 cr) Prereq: ACCT 201 and 202 with grades of C or better, or 306 with grade of C or better. Internal accounting as a tool to generate information for managerial planning and control. Conventional and computer problem materials are used to develop understanding of operating and capital budgets, standard costs, incremental concepts, relevant costs, transfer pricing, and responsibility and profit center reports as a means of analysis as well as techniques of measurement.**

**[IS] 309. Accounting Systems (3 cr) Prereq: ACCT 201 and 202 with grade of C or better, or ACCT 306 with grade of C or better; MNGT/MIST 350; or permission.**

Examination of accounting system concepts, applications, and the process by which they are analyzed, designed, and implemented. Emphasis on management information and computer applications in financial accounting, auditing, and management accounting by means of case study analysis.

**313. Intermediate Accounting I (3 cr) Prereq: ACCT 201 and 202 with grades of C or better, or 306 with grade of C or better. Analysis and interpretation of financial and operating statements; net income concepts, statements from incomplete records; theory and practice relating to cash flow; and the investment in tangible and intangible assets.**

**[IS] 314. Intermediate Accounting II (3 cr) Prereq: ACCT 313 with grade of C or better, or permission.**

Continuation of ACCT 313 with emphasis on contemporary accounting theory and practice regarding long-term liabilities, corporate equities, and problem areas under study by professional accounting organizations. Analysis of financial statements and the statements of cash flow stressed and related to current controversial topics.

**398. Special Topics (1-3 cr, max 3) Lec. Prereq: Permission of director of the School of Accountancy. Topics vary.**

**399. Independent Study (1-3 cr) Prereq: Permission of director of the School of Accountancy. Open to juniors and seniors concentrating in accounting.**

Special research project or reading program under the direction of a staff member in the School.

**399H. Honors: Independent Study (3-6 cr) Prereq: Good standing in the University Honors Program or by invitation, and permission of the supervising faculty member and director of the School of Accountancy.**

Special research project or reading program under the direction of a faculty member within the School of Accountancy.

**404/804. Advanced Accounting (3 cr) Prereq: ACCT 314 with grade of C or better, or permission.**

Special accounting problems relating to the preparation of combined and consolidated financial statements for accounting entities with branch offices and with subsidiaries, both domestic and foreign; partnership accounting; accounting for foreign currency transactions and translations; governmental and not-for-profit accounting.

**407. Ethics and Accountant's Professional Responsibility (3 cr) Lec. Prereq: ACCT 313 with grade of "C" or better.**

Role of a professional accountant, codes of accountants, ethical decision making, the legal, regulatory and social environment in which an accountant makes an ethical decision.

**408/808. Advanced Managerial Accounting (3 cr) Prereq: FINA 361 and ACCT 308 with grade of C or better, or permission. Advanced treatment of managerial accounting topics with emphasis on generation, communication, and use of information to assist management in performance of the planning and control function. Problems, cases, library materials, and computer systems analysis are used to develop understanding of variance analysis, cost systems, capital budgeting, and other quantitative techniques relevant to internal accounting.**

**[IS] 410/810. Auditing (3 cr) Prereq: ACCT 309 and 314, both with a grade of C or better.**

Duties and responsibilities of auditors, methods of conducting various kind of audits; audit working papers; the preparation of the audit report; the auditor's certificate; special problems in the audit of different kinds of enterprises.

**[IS] 412/812. Federal Tax Accounting (3 cr) Prereq: ACCT 313 with a grade of C or better, or permission.**

Federal and state income tax concepts. Includes theory and historical growth of the fundamentals of the federal tax laws and regulations. Emphasis on the practical application of the tax laws in the preparation of the tax returns (for wage earners and sole proprietors) and the need for tax planning.

**499H. Honors Thesis (3-6 cr) Prereq: Good standing in the University Honors Program or by invitation, and permission. Conduct a scholarly research project and write a University Honors Program or undergraduate thesis.**

**802. Accounting Standards (3 cr) Prereq: ACCT 810 with a grade of C or better, or permission.**

**803. Seminar in Financial Accounting (1-3 cr, max 3) Prereq: Admission to the Masters of Professional Accountancy (MPA) program, or permission of the MPA adviser and instructor.**

**807. Ethics and Accountant's Professional Responsibilities (3 cr) Prereq: Permission of the MBA or MPA director.**

**813. Advanced Federal Tax Accounting (3 cr) Prereq: ACCT 412/812 and admission to the Master of Professional Accountancy Program.**

**814. Governmental and Not-for-Profit Accounting (3 cr) Prereq: ACCT 314.**

**815. Tax Research and Planning (3 cr) Prereq: ACCT 412/812.**

**816. Special Topics in Federal Taxation (3 cr) Prereq: ACCT 412/812.**

**817. The Income Tax and Management Decisions (3 cr) Prereq: Courses constituting the equivalent of the undergraduate common body of knowledge requirement for CBA.**

**\*818. Taxation—Farm & Ranch (LAW 618) (3 cr) Prereq: LAW 637 or ACCT 412/812.**

**831. Seminar in Auditing (3 cr) Prereq: ACCT 810. Prereq: Admission to the Masters of Professional Accountancy (MPA) program, or permission of the MPA adviser and instructor.**

**\*837. Taxation—Individual Income (LAW 637/637G) (3-4 cr, max 4)**

For course description, see LAW 637/637G.

**\*838. Taxation—Corporate (LAW 638) (3 cr) Prereq: LAW 637 or ACCT 812.**

**840. Fraud Examination (3 cr) Prereq: Permission.**

**\*848. Business Planning (LAW 648) (3 cr) Prereq: LAW 638 or ACCT 813.**

**857. Controllership (3 cr each) Prereq: Admission to the Masters of Professional Accountancy (MPA) program, or permission of the MPA adviser and instructor; ACCT 808 or GRBA 910.**

**858. Seminar in Managerial Accounting (3 cr) Prereq: Admission to the Masters of Professional Accountancy (MPA) program, or permission of the MPA adviser and instructor.**

**\*863. Taxation—Individual Income II (LAW 663) (3 cr)**

**899. Master Thesis (6-10 cr)**

**NOTE:** With the specific approval of the faculty member teaching the course and the Dean of the College of Law, students not seeking a law degree may be admitted to one or more of the courses indicated above with an asterisk (\*).

Refer to the Graduate Bulletin for 900-level courses.

### Business Law (BLAW)

**371. Legal Environment** (3 cr) Prereq: Sophomore standing; 2.5 GPA; MATH 104 or 106/106B/108H.

Law as it relates to the business transaction. Torts, contracts, sales, and related topics in the political and economics environment in which business functions and consideration of social and ethical issues creating pressure for change.

**372. Business Law I** (3 cr) Prereq: Junior standing and 2.5 GPA. In addition to specific prerequisites listed above, College of Business Administration students must also have completed the following courses or their equivalents: BSAD 150; ENGL 101/101H or 150/150H or 151/151H; MATH 104 or 106/106B/108H; IGEN 120; COMM 286; ACCT 201/201H and 202, or 306; ECON 211 and 212, or 210; ECON 215 or STAT 218. Prereq for actuarial science, Raikes School, and agribusiness majors: Refer to exceptions for the requirements.

Basic legal principles needed to recognize the relevant issues and the legal implications of business situations. Application of the principles of law to accounting and auditing. Political, social, and ethical implications. Property and contracts.

## Actuarial Science

**Director:** Warren Luckner

**Professor:** Ramsay

**Associate Professor:** Mashayekhi

**Assistant Professor of Practice:** Vagts

An actuary is a mathematically-oriented business person who will most likely be a manager or supervisor at some point in his/her career. Thus, a course of study culminating in a bachelor of science degree in business administration with a major in actuarial science is an excellent educational background for prospective actuaries. Additional information is available at [www.BeAnActuary.org](http://www.BeAnActuary.org)

The actuarial science program is designed to prepare students for the current industry demands. Because the demands change on a regular basis, often times, the number of hours, the sequencing of courses, and the specific requirements change for this major. Students should continue to consult with the department for the appropriate selection and listing of course requirements.

In addition, because of the mathematical orientation for this program, actuarial science majors are required to make some modifications to the degree program requirements. These requirements (with a reminder that all required course work must be taken for a grade) are noted below.

### Actuarial Science Major

**All course work for the major must be taken for a grade (no Pass/No Pass).**

Actuarial science majors must take **MATH 106, 107, and 208**, as well as **CSCE 150A**.

Actuarial science majors may "elect" to take **ACCT 306** (4 hrs) in place of **ACCT 201** and **202**.

Majors **MUST** take **STAT 380** in place of **ECON 215**, and also take **STAT 462** and **463**.

Majors must take **FINA 461** (3 hrs) in place of **FINA 361**. For actuarial science students, **ACTS 440/840** satisfies the prerequisite for **FINA 461**.

The current requirements for the major consist of 28 hours and the following course work; however, students should continue to consult with an actuarial science program adviser for an updated listing of hours and course requirements.

**ACTS 430. Actuarial Applications of Applied Statistics** (3 cr)

**ACTS 440. Financial Mathematics** (4 cr)

**ACTS 470. Life Contingencies I** (3 cr)

**ACTS 471. Life Contingencies II** (3 cr)

**ACTS 473. Intro to Risk Theory** (3 cr)

**ACTS 475. Actuarial Applications in Practice** (3 cr)

**FINA 307. Principles of Individual Risk**

**Management & Insurance** (3 cr) **or** **FINA 338**

**Principles of Corporate Risk Management** (3 cr)

**FINA 363. Investment Principles** (3 cr)

*One of the following:*

**ACTS 410 Intro to Credibility, Smoothing of Data & Simulation** (3 cr)

**ACTS 425 Survival Models** (3 cr)

**ACTS 450 Stochastic Processes for Actuaries** (3 cr)

**FINA 467 Options, Futures & Derivative Securities** (3 cr)

Students are also strongly encouraged to take actuarial science problem labs as appropriate, **MATH 314**, and at least one of **FINA 412, 420, 438**, or **ECON 413**.

Actuarial science majors must complete the International Business Course Requirement (IBCR).

For students starting under ACE for 2009-10: the 300-400 upper-level requirement of electives is waived.

### Actuarial Science Minor

Course work for the minor cannot be double-counted toward business degree requirements (with the exception of the **MATH/STAT** prerequisites and business electives), major, or other business minor requirements. The minor requires 12 graded hours of actuarial science courses plus prerequisite mathematics and statistics courses.

### Courses of Instruction (ACTS)

All students enrolling in CBA courses are required to meet the prerequisites listed for each course, including any specific grade or GPA requirement, and junior standing for enrollment in most 300 or 400-level business courses.

All 800- and 900-level courses are open only to graduate students.

**399. Independent Study** (1-3 cr) Prereq: Permission.

**401. Problem Lab: Basic Actuarial Applications of Probability** (1 cr) Lab 1. Prereq: **MATH 208/208H** and **STAT 462**, or parallel, and both with a grade of "Pass" or "C" or better.

Calculus-based probability, both univariate and multivariate, applications to risk management-related problems. Problems as posed in the *Society of Actuaries (SOA) Exam "P"* and/or *Casualty Actuarial Society (CAS) Exam "1"*. Determination of loss frequency distributions and their characteristics, expected value, variance, and percentiles. Determination of loss severity distributions and their characteristics, expected value, variance, and percentiles. Determination of loss sharing parameters, deductibles, and maximum payments.

**402. Problem Lab: Basic Actuarial Applications of Financial Mathematics** (1 cr) Lab 1. Prereq: **ACTS 440/840** or parallel.

Application of basic mathematics of finance to problems involving valuation of financial transactions. Problems as posed in the *Society of Actuaries (SOA) Exam "FM"* and/or *Casualty Actuarial Society (CAS) Exam "2"*. Determining equivalent measures of interest; estimating the rate of return on a fund; discounting or accumulating a sequence of payments with interest; determining yield rate; length of investment; amounts of investment contributions or amounts of investment returns for various types of financial transactions; and basic calculations involving yield curves, spot rates, forward rates, duration, convexity, immunization and short sales; introduction to financial derivatives (forwards, options, futures, and swaps) and their use in risk management; and introduction to the concept of no-arbitrage as a fundamental concept in financial mathematics.

**403. Problem Lab: Actuarial Models—Life Contingencies** (1 cr) Lab 1. Prereq: **ACTS 470/870, 471/871**, and **473/873**.

Problems as posed in the *Society of Actuaries (SOA) Exam "M"* and/or *Casualty Actuarial Society (CAS) Exam "3"*. Survival and severity models; *Markov Chain* models; life contingencies; and *Poisson* processes.

**404. Problem Lab: Construction and Evaluation of Actuarial Models** (1 cr) Lab. Prereq: **ACTS 410** and **425**.

Problems as posed in the *Society of Actuaries (SOA) Exam "C"* and/or *Casualty Actuarial Society (CAS) Exam "4"*. Construction of empirical models; construction and selection of parametric models; credibility theory; interpolation and smoothing of data; and simulation.

**405. Problem Lab: Actuarial Models—Financial Economics** (1 cr) Lab 1. Prereq: **ACTS 440/840; FINA 467/867**.

Problems as posed in the *Society of Actuaries (SOA) Exam "M"*. Interest rate models; rational valuation of derivative securities (option pricing; put-call parity, the binomial model, Black-Scholes formula, and actuarial applications; interpretation of option Greeks and delta-hedging; features of exotic options; an introduction to Brownian motion and Itô's lemma); and risk management techniques.

**410/810. Introduction to Credibility, Smoothing of Data, and Simulation** (3 cr) Lec. Prereq: **STAT 463**.

Full, partial, *Bühlmann*, and *Bühlmann-Straub* credibility models. Introduction to empirical *Bayes* and statistical distributions used to model loss experience. Application of "polynomial splines" to actuarial data. Simulation of "discrete" and "continuous random" variables in context of actuarial models. Simulation to "p-value" of hypothesis test. "Bootstrap method" of estimating the "mean squared error" of an estimator.

**425/825. Survival Models** (3 cr) Lec. Prereq: **STAT 463** with a grade of "C" or better.

Parametric and tabular survival models. Estimation based on observations that might not be complete. Concomitant variables. Use of population data. Applications to groups with impaired lives.

**430/830. Actuarial Applications of Applied Statistics** (3 cr) Lec. Prereq: **STAT 463** with a grade of "C" or better. *Data sets processed and analyzed using statistical software*.

Introduction to forecasting in actuarial science. Simple and multiple regression, instrumental variables, time series methods, and applications of methods in forecasting actuarial variables. Interest rates, inflation rates, and claim frequencies.

**440/840. Financial Mathematics** (4 cr) Lec. Prereq: **MATH 208** with a grade of "Pass" or "C" or better, or parallel.

Application of financial mathematics to problems involving valuation of financial transactions; equivalent measures of interest; rate of return on a fund; discounting or accumulating a sequence of payments with interest; and yield rates, length of investment, amounts of investment contributions or amounts of investment returns for various types of financial transactions; loan and bonds. Introduction to the mathematics of modern financial analysis. Calculations involving yield curves, spot rates, forward rates, duration, convexity, immunization and short sales; introduction to financial derivatives (forwards, options, futures, and swaps) and their use in risk management; and introduction to the concept of no-arbitrage as a fundamental concept in financial mathematics.

**442/842. Principles of Pension Valuation** (3 cr) Lec. Prereq: **ACTS 471/871** with a grade of "C" or better.

Actuarial cost methods. Determination of normal costs and accrued liability. Effect on valuation results due to changes in experience, assumptions and plan provisions. Valuation

of ancillary benefits. Determination of actuarially equivalent benefits at early or postponed retirement and optional forms of payment.

**450/850. Stochastic Processes for Actuaries** (3 cr) Lec. Prereq: STAT 463 with a grade of "C" or better.

Introduction to stochastic processes and their applications in actuarial science. Discrete-time and continuous-time processes; Markov chains; the Poisson process; compound Poisson processes; non-homogeneous Poisson processes; arithmetic and geometric Brownian motions. Applications of these processes in computation of resident fees for continuing care retirement communities. Pricing of financial instruments.

**470/870. Life Contingencies I** (3 cr) Lec. Prereq: ACTS 440 and STAT 462, each with a grade of "C" or better. *First course of a two-course sequence that includes ACTS 471.*

Theory and applications of contingency mathematics in the areas of life and health insurance, annuities, and pensions. Probabilistic models.

**471/871. Life Contingencies II** (3 cr) Lec. Prereq: ACTS 470 and STAT 462, each with a grade of "C" or better. *Second course of a two-course sequence that includes ACTS 470.*

Life insurance reserve for models based on a single life. Introduction to multiple life models for pensions and life insurance and to multiple decrement models.

**473/873. Introduction to Risk Theory** (3 cr) Lec. Prereq: STAT 462 with a grade of "C" or better.

Applications of compound distributions in modeling of insurance loss. Continuous-time compound Poisson surplus processes, computation of ruin probabilities, the distributions of the deficit at the time of ruin, and the maximal aggregate loss. The effect of reinsurance on the probability of ruin.

**(ACE 10) 475/875. Actuarial Applications in Practice** (3 cr) Lec 3. Prereq: ACTS 471; FINA 307/307H or 338.

Principles and practices of pricing and/or funding and valuation for life, health, property and liability insurance, and annuities and pension plans. Commercially available actuarial modeling software.

**860. Loss Distribution** (3 cr) Prereq: STAT 463.

**899. Masters Thesis** (6-10 cr)

Refer to the Graduate Bulletin for 900-level courses.

## Agribusiness

Director: Professor Ronald Hampton

UNL's Agribusiness Program is nationally recognized for its innovation and quality. The program is designed to meet the agribusiness industry's needs for professionals and entrepreneurs who have the educational background to become successful decision-makers in the rapidly changing agribusiness world. Agribusiness students interact with agribusiness professionals through learning and work-related opportunities, both in and out of the classroom.

Majoring in the Agribusiness Program prepares students for many agribusiness careers, such as:

- Agribusiness Management
- Finance and Lending
- Real Estate Management and Investment
- Commodity Trade and Analysis
- Grain Merchandising
- Market Planning and Analysis
- International Marketing
- Entrepreneurship and New Business Development
- Sales Management

- Information Technology and Analysis
- Production Management
- Food Marketing and Industry Organization

The agribusiness major also prepares students for graduate study in agribusiness, business administration, and agricultural economics.

The agribusiness major is a joint program between the College of Business Administration and the College of Agricultural Sciences and Natural Resources. It prepares students for careers in this dynamic and constantly changing field. It is the first program of this kind in the US and is designed to meet the agribusiness industry's need for employees with training in both business and agriculture.

Agribusiness majors take a blend of courses in business and agriculture that gives the student a balance between the decision-making framework of business and the technical aspects of modern agriculture and food systems. This means emphasis is placed on business and agriculture, making it an attractive degree for agribusiness employers and a very marketable degree for agribusiness students. The CBA Agribusiness Program also allows the student to build expertise in their area of interest by taking College of Agricultural Sciences and Natural Resources courses in a specific area.

### Agribusiness Major Requirements

**All course work for the major must be taken for a grade (no Pass/No Pass).**

The requirement for the agribusiness major, in addition to the general college requirements, is comprised of 31 semester hour credits, which consists of classes in the College of Agricultural Sciences and Natural Resources.

All students enrolling in CBA courses are required to meet the prerequisites listed for each course, including any specific grade or GPA requirement.

Students interested in agronomy or chemical sales are recommended to take CHEM 109.

Agribusiness majors may elect to fulfill the MNGT/MIST 350 requirement with MRKT 350.

For students starting under ACE for 2009-10, the 300-400 upper-level requirement of electives is waived.

The current requirements for the agribusiness major, in addition to the general college requirements, consist of 31 hours of the following course work:

1. AECN 201 Farm & Ranch Management
2. MRKT 225 Agribusiness & Food Products Marketing or MRKT 325 Marketing of Agricultural Commodities
3. **6 hours** of production course work from the following list of approved courses:  
**AGRI** 200  
**AGRO** 131, 132, 153, 204, 220, 240, 269, 340, 361, 366, 405, 408, 425, 431, 437, 438, 440, 442, 444, 445, 477  
**ASCI** 100, 150, 200, 210, 211, 240, 250, 300A, 300B, 300D, 300E, 310, 320, 330, 341, 351, 360, 370, 410, 418, 450, 451, 452, 453, 454, 455, 457, 485  
**ENTO** 109, 115, 116, 303, 308, 409  
**FDST** 101, 203, 403, 405, 406, 412, 418, 425, 429, 455

**HORT** 130, 170, 200, 212, 213, 221, 260, 261, 262, 266, 325, 327, 350, 362, 467, 468, 469  
**NRES** 211, 212, 213, 310, 311, 323, 348, 350, 408, 424

**MSYM** 232, 245, 312, 342, 354, 364, 431, 452  
**PLPT** 369  
**VBMS** 303, 441

4. **9 hours** of non-production course work.

Non-production courses consist of any class taken in the College of Agricultural Sciences and Natural Resources that is not in the list of "Production" courses (above).

5. **9 hours** of College of Agricultural Sciences and Natural Resources electives. These hours consist of any course in the College of Agricultural Sciences and Natural Resources.

**Eighteen** of the 24 hours (6 hours production, 9 hours non-production, and 9 hours College of Agricultural Sciences and Natural Resources electives) must be completed at the 200 level or above. Courses and descriptions appear under the individual departmental majors.

Students should consult with their adviser for the appropriate selection of courses.

A minimum of 120 hours is required for the degree and additional hour requirements (depending on total hours completed for requirements) may be needed.

## Courses of Instruction (ABUS)

**[ES] 341. Marketing** (MRKT 341) (3 cr) Prereq: Sophomore standing; ECON 211 and 212, or 210; 2.5 GPA. Prereq for actuarial science, Jeffrey S. Raikes School of Computer Science and Management, and agribusiness majors: refer to exceptions for the requirements.

For course description, see MRKT 341.

## Business Administration

The business administration major is designed for students who wish to obtain a broad education in business administration rather than specializing in a specific area within the College. Under this option, students may choose courses from any of the departments within the College in any combination. For the student who has an educational goal that bridges two or more areas of business, the general business administration major permits the design of a tailor-made program to fit that goal.

Many organizations seek generalists rather than specialists when hiring employees. Some employers feel that in today's world of rapid change, individuals who have a broad educational background are more adaptive to this change and are better suited to a variety of roles within the organization.

### Business Administration Major Requirements

**All course work for the major must be taken for a grade (no Pass/No Pass).**

The requirements for the business administration major, in addition to the general College requirements, include 21 hours of 300- and 400-level business and/or economics courses, with the following restrictions:

- A minimum of three departments must be represented
- A minimum of 9 hours at the 400 level
- A maximum of 9 hours from one department

All students enrolling in CBA courses are required to meet the prerequisites listed for each course, including any specific grade or GPA requirement, to include junior standing for enrollment in most 300- or 400-level business courses.

Because of the broad nature of this major, business students are expected to have completed their information systems, communications, mathematics and statistics, accounting, and economics requirements prior to enrolling in course work for their major.

Students who participated in the CBA at Senshu University Program may use 6 hours of 429 (offered by the departments of accounting, finance, management, or marketing) or 6 hours BSAD 491 toward a business administration major. Courses and descriptions appear under finance, management and marketing.

## Courses of Instruction (BSAD)

**092. CBA Career Skills Seminar** (0 cr) Lec 1. BSAD 092 requires writing resumes and letters of application and going through a mock interview. Pass/No Pass only.

Seminar to develop job-hunting skills as applied to the fields of business. How to go about the job-hunting process efficiently and effectively. Experiential in design. Assess capabilities and research potential employers.

**098. Senior Assessment** (0 cr) Pass/No Pass only.

Utilizing Blackboard, graduating seniors are informed of appropriate career-related announcements, activities, and responsibilities. Assessment activities are conducted through class and include such exams as the Educational Testing Service Major Field Exam, the College of Business Administration Student Survey, the Employment (post-graduation plans) Survey, and other assessment related activities.

**101. Business Leadership Development** (1 cr) Lec, rec. Prereq: Freshman standing; a major in the College of Business Administration. Pass/No Pass only.

Concepts and principles of leadership development and their relationship of the various disciplines within business, the college, the university, the community, and society in general.

**150. Business Computer Applications** (1 cr) Pass/No Pass only.

Demonstration of a minimum degree of computer proficiency using basic business software packages that are required to earn a degree from the College of Business Administration (CBA) or for a non-CBA major enroll in a CBA course.

Computer proficiency required to use basic business software packages.

**[IS] 181H. Honors: Foundations of Business I** (RAIK 181H) (3 cr) Lec 3, rct 2. Prereq: Good standing in the University Honors Program; admission to the Jeffrey S. Raikes School of Computer Science and Management. *First course in the Jeffrey S. Raikes School of Computer Science and Management core.*

Introduction to financial accounting, accounting systems, basic finance, management and information systems. Content integration and application, problem-solving and situational analysis.

**(ACE 6) [ES][IS] 182H. Honors: Foundations of Business II** (RAIK 182H) (3 cr) Lec 3, rct 2. Prereq: Good standing in the University Honors Program; admission to the Jeffrey S. Raikes School of Computer Science and Management and BSAD/RAIK 181H. *Second course in the Jeffrey S. Raikes School of Computer Science and Management core.*

Introduction to managerial accounting and microeconomics. Continuation of management, information systems and accounting systems topics. Content integration and application, problem-solving and situational analysis.

**185H. Honors: Foundations of Leadership I** (RAIK 185H) (1 cr) Lec 1. Prereq: Good standing in the University Honors Program or by invitation; admission to the Raikes School of Computer Science and Management. *First course in the Raikes School of Computer Science and Management leadership core.*

Introduction to personal development with an application to leadership.

**186H. Honors: Foundations of Leadership II** (RAIK 186H) (0 cr) Lec 1. Prereq: Good standing in the University Honors Program or by invitation; admission to the Raikes School of Computer Science and Management and BSAD/RAIK 185H. *Second course in the Raikes School of Computer Science and Management leadership core.*

Continued pursuit and analysis of personal development and its application to leadership.

**[IS] 281H. Honors: Business Systems and Operations I** (RAIK 281H) (3 cr) Lec 3, rct 2. Prereq: Good standing in the University Honors Program; admission to the Raikes School of Computer Science and Management and BSAD/RAIK 182H. *Third course in the Raikes School of Computer Science and Management core.* Focus on operations management. Introduction to advanced management principles and accounting system development. Content integration and application, problem-solving and situational analysis.

**(ACE 8) [IS] 282H. Honors: Business Systems and Operations II** (RAIK 282H) (3 cr) Lec 3, rct 2. Prereq: Good standing in the University Honors Program; admission to the Raikes School of Computer Science and Management and BSAD/RAIK 281H. *Fourth course in the Raikes School of Computer Science and Management core.*

Continuation of operations management topics including advanced management principles and accounting system development. Content integration and application, problem-solving and situational analysis.

**285H. Honors: Applications of Leadership I** (RAIK 285H) (1 cr) Lec 1. Prereq: Good standing in the University Honors Program or by invitation; admission to the Raikes School of Computer Science and Management and BSAD/RAIK 186H. *Third course in the Raikes School of Computer Science and Management leadership core.*

Focus on making sense of yourself and others. Applications to team and shared leadership development.

**[ES] 286H. Honors: Applications of Leadership II** (RAIK 286H) (1 cr) Lec 1. Prereq: Good standing in the University Honors Program or by invitation; admission to the Raikes School of Computer Science and Management and BSAD/RAIK 285H. *Final course in the Raikes School of Computer Science and Management leadership core.*

Continued focus on making sense of yourself and others. Further applications to team and shared leadership development.

**301H. Honors: RAIK Design Studio I** (RAIK, CSCE 301H) (3 cr) Lec 3, lab. Prereq: Good standing in the University Honors Program; admission to the Raikes School of Computer Science and Management; RAIK/BSAD 282H; and CSCE/RAIK 284H. *First semester of Raikes School of Computer Science and Management design studio sequence.*

For course description, see RAIK 301H.

**302H. Honors: RAIK Design Studio II** (RAIK, CSCE 302H) (3 cr) Lec 3, lab. Prereq: Good standing in the University Honors Program; admission to the Raikes School of Computer Science and Management; and BSAD/CSCE/RAIK 301H. *Second semester in the Raikes School of Computer Science and Management design studio sequence.*

For course description, see RAIK 302H.

**[ES][IS] 381H. Honors: Advanced Topics in Business I** (RAIK 381H) (3 cr) Lec 3. Prereq: Good standing in the University Honors Program and admission to the Raikes School of Computer Science and Management; BSAD/RAIK 282H. *Fifth course in the Raikes School of Computer Science and Management core.* Macroeconomics and introduction to advanced topics in accounting systems, finance, management and information systems. Content integration and application to problem-solving and situational analysis.

**[IS] 382H. Honors: Advanced Topics in Business II** (RAIK 382H) (3 cr) Lec 3. Prereq: Good standing in the University Honors Program; admission to the Raikes School of Computer Science and Management and BSAD/RAIK 381H. *Sixth course in the Raikes School of Computer Science and Management core.* Microeconomics. Continuation of advanced topics in

accounting systems, finance, management and information systems. Content integration and application, problem-solving and situational analysis.

**[IS] 401H. Honors: RAIK Design Studio III** (RAIK, CSCE 401H) (3 cr) Lec 3, lab. Prereq: Good standing in the University Honors Program; admission to the Raikes School of Computer Science and Management; and BSAD/CSCE/RAIK 302H. *Third semester in the Raikes School of Computer Science and Management design studio sequence.*

For course description, see RAIK 401H.

**(ACE 10) [IS] 402H. Honors: RAIK Design Studio IV** (RAIK, CSCE 402H) (3 cr) Lec 3, lab. Prereq: Good standing in the University Honors Program; admission to the Raikes School of Computer Science and Management; and BSAD/CSCE/RAIK 401H. *Fourth semester in the Raikes School of Computer Science and Management design studio sequence.*

For course description, see RAIK 402H.

**491. International Studies in Business and Economics** (1-15 cr, max 15) Prereq: Permission of Program Coordinator, major or interest in business administration or by invitation. *Passport to travel in some countries required, educational visa may be required. Student must confer with the College of Business Administration (CBA) faculty adviser to determine if course work is applicable towards a specific CBA major. Travel outside the United States is required. Arrangements for travel and program costs (tuition, transportation, room and/or board, etc.) will vary depending on the program.*

Primary study at site(s) outside the United States with topics to vary depending on the country(ies) and area of study.

## Economics

**General Economics and Theory, Comparative International and Regional Development, Econometrics, Economic Education, Economic History, Industrial Organization and Regulation, Institutional Economics, International Trade and Finance, Labor Economics, Monetary Economics, Public Finance, Quantitative Economics**

**Chair:** Professor Scott M. Fuess, Jr.

**Professors:** Anderson, Cushing, Edwards, Fuess, Hayden, MacPhee, Rosenbaum, Schmidt, Walstad

**Associate Professors:** Allgood, Kim, May, McGarvey, Thompson, van den Berg

**Assistant Professor:** Butters

**Assistant Professor of Practice:** Asarta

Economic analysis is useful in many decisions made by individuals, businesses, nonprofit organizations, and governments. In addition to opportunities in teaching, economists are employed in many branches of government and on the staffs of corporations in manufacturing, insurance, banking, brokerage, and financial services. Economists often serve as consultants, either individually or in consulting firms. Today's economists deal with problems ranging from monetary and fiscal policy, monopoly and competition, environmental improvement, labor relations, regional development, urban reconstruction, economic development and international business and finance.

The Department of Economics offers the opportunity for intensive study in 12 specialized economic areas: economic theory, comparative international and regional development, econometrics, economic education, economic history, industrial organization and regulation, quantitative economics, international trade and finance,

institutional economics, labor economics, monetary economics, and public finance. The course offerings in these areas are described on the following pages.

For some career objectives, study in related areas is advisable. For example, a student planning a career in human resource management would benefit from courses in labor economics and economic history. An interest in finance would be complemented by courses in money and banking and intermediate microeconomics. Those interested in marketing could find courses in econometrics useful for sales forecasting. Accountants might find public finance courses covering taxes to be useful. Strategic management involves many of the principles taught in industrial organization.

## Economics Major Requirements

All courses for the major, with the exception of ECON 399, must be taken for a grade (no Pass/No Pass) If ECON 399 is taken as Pass/No Pass, it may only be used as an elective.

In addition to the 9 general credit-hour requirements of the College (ECON 211, 212 and 215), an economics major must complete 21 additional credit hours of economics.

The requirements for the major include:

	Hours
ECON 311 Intermediate Macroeconomics .....	3
ECON 312 Intermediate Microeconomics.....	3
Economics 300- or 400-level course .....	6
Economics 400-level courses .....	9
<i>Faculty approval required on proposed program of course work.</i>	
	<b>Total 21<sup>9</sup></b>

## Economics Minor Requirements

The economics minor offered through CBA is available to **College of Business Administration students only**. Economics course work used for this minor **cannot** be double counted toward business degree requirements (with the exception of business electives), major, or other business minor requirements. Business students choosing to minor in economics must follow the CBA economics minor requirement (not Arts and Sciences).

To fulfill the requirements for an economics minor, students must complete nine graded hours of economics course work (no Pass/No Pass) at the 300/400 level.

## Courses of Instruction (ECON)

All students enrolling in CBA courses are required to meet the prerequisites listed for each course, including any specific grade or GPA requirement, to include junior standing for enrollment in most 300 or 400-level economics courses.

No economics course may be taken Pass/No Pass, except ECON 399. If ECON 399 is taken as Pass/No Pass, it may only be used as an elective (not for the major).

All 800- and 900-level courses are open only to graduate students. Refer to the Graduate Bulletin for 900-level courses.

<sup>9</sup> Completion of ECON 311 and 312 is recommended before taking other 300- and 400-level courses.

## General Economics and Theory

[ES] 210. **Introduction to Economics** (5 cr) Prereq: Sophomore standing and above. Recommended for students outside the College of Business Administration but not for economics majors in the College of Arts and Sciences. *Students taking ECON 210 cannot earn credit for ECON 211 and 212.*

Principles which govern the organization and behavior of modern economic systems. Includes the nature of economics and economic systems; national income, inflation and unemployment measurement and determination; money, monetary and fiscal policy; economic growth; the allocation of economic resources; the behavior of consumers and producers in markets; the distribution of income; and the international economy.

(ACE 6, 8) [ES] 211. **Principles of Macroeconomics** (3 cr) Prereq: Sophomore standing. Required for College of Business Administration major and for Arts and Sciences economics major. *Credit towards degree cannot be earned in both ECON 210 and in ECON 211 and/or 212.*

Introduction to the nature and methods of economics. Includes economic systems, measurement and analysis of aggregate variables, such as national income, consumption, saving, investment, international payments, employment, price indices, money supply, and interest rates. Fiscal, monetary, and other policies for macroeconomic stabilization and growth are evaluated.

(ACE 6, 8) [ES] 212. **Principles of Microeconomics** (3 cr) Prereq: Sophomore standing. Required for College of Business Administration major and for Arts and Sciences economics major. *Credit towards degree cannot be earned in both ECON 210 and in ECON 211 and/or 212.*

Continuation of an introduction to economic methods with emphasis on analysis and evaluation of markets. Includes demand, supply, elasticity, production costs, consumption utility, monopoly, competition, monopolistic competition, oligopoly, allocative and technical efficiency, and income distribution. Analysis applied to resource markets, unions, antitrust laws, agriculture, international trade, and to other economic problems and policies.

311. **Intermediate Macroeconomics** (3 cr) Prereq: ECON 211 and 212; ECON 215 or equivalent; MATH 104 or equivalent. Extensions and elaboration of theories of aggregate production, consumption, savings and investment, and international trade and finance. Detailed analyses of aggregate demand and supply and applications to inflation and unemployment. Various models of a market economy's performance, and analyses of monetary and fiscal policies for macroeconomic stabilization and growth.

312. **Intermediate Microeconomics** (3 cr) Prereq: ECON 211 and 212; ECON 215 or equivalent; MATH 104 or equivalent. Extension and elaboration of the economic theories of the behavior of producers, consumers, and markets. Applications include analyses of taxation, rationing and other government policies, price discrimination, cartels, unions, and international markets.

389. **Current Economic Issues** (3 cr) Prereq: ECON 210, or both 211 and 212; for juniors only. Critical analysis of economic issues based upon readings of current and historical importance. (Possible illustrative topics: pollution, discrimination, poverty, energy, agribusiness, health, demographics, ideology, and crime.)

413/813. **Social Insurance** (FINA 413/813) (3 cr) Lec 3. Nature and causes of economic insecurity. Analysis of public programs such as Social Security, unemployment insurance, workers' compensation, and public assistance.

433/833. **History of Economic Thought** (3 cr) Development and evolution of economic ideas, including diverse mainstream and dissenting schools of thought from ancient Greece to contemporary texts. Consideration of selected influential economists' writings, relation between economic conditions and ideas and the antecedents of current economic controversies.

873. **Microeconomic Models and Applications** (AECN \*873) (3 cr) Prereq: ECON 211, 212, and 215. *This course is intended for MA Option II students and others who do not plan to proceed to PhD studies.*

874. **Macroeconomic Models and Applications** (3 cr) Prereq: ECON 211, 212 and 215. *This course is intended for MA Option II students and others who do not plan to proceed to PhD studies.*

## Comparative International and Regional Development

322. **Introduction to Development Economics** (3 cr) Prereq: ECON 210 or 211.

Survey of economic problems of developing countries and of appropriate policies to foster economic progress. Discussion of the roles of education, research, innovation, saving, and capital formation in the growth process.

323. **The Economic Development of Latin America** (3 cr) Prereq: ECON 210 or 211.

Description of the economies of Latin America, with emphasis on current economic problems. How past development contributed to the present economic situation. Detailed analysis of the economies and recent economic policies using standard microeconomic and macroeconomic models.

340. **Introduction to Urban-Regional Economics** (3 cr) Prereq: ECON 210, or both 211 and 212.

Analysis of reasons for the existence, size, location, and evolution of cities. Analysis of the location of economic activity; differences in regional growth patterns, downtown revitalization, slums, congestion, and state economic development.

[IS] 388. **Comparative Economic Systems** (3 cr) Prereq: ECON 210, or both 211 and 212.

Intermediate survey of modern economic systems. Analysis of differences in underlying ideologies, institutions, policies, and performance among the US, Soviet Union, Western and Eastern Europe, Japan and China.

423/823. **Economics of the Less Developed Countries** (3 cr)

Prereq: ECON 210, or both 211 and 212.

Advanced survey of development problems and goals; roles of land, labor, capital, entrepreneurship, and technical progress in economic growth of the less developed countries. Theories and strategies relating to international trade and economic development.

440/840. **Regional Development** (3 cr) Prereq: ECON 210, or both 211 and 212.

Advanced analysis of regional growth and development. Emphasis on the relationship between national and regional growth as well as local attributes influencing development patterns. Comparisons between developed and developing countries used to highlight similarities and differences in development patterns and policies. Empirical applicability of regional economic models stressed.

442/842. **Regional Analysis** (3 cr) Prereq: ECON 440/840.

Advanced study of techniques for regional analysis. Includes indexes of spatial dispersion and concentration, shift-share analysis, export base, and input-output analysis. Emphasis on input-output analysis. Objective is to equip students with the basic analytical tools of regional economic analysis.

466/866. **Pro-seminar in International Relations I** (AECN 467; ANTH, HIST 479/879; GEOG 448/848; POLS, SOCI 466/866) (3 cr) Prereq: Permission. *Open to students with an interest in international relations.*

For course description, see POLS 466/866.

467/867. **Pro-seminar in International Relations II** (POLS 467/867) (3 cr) Prereq: Permission. *Open to students with an interest in international relations.*

For course description, see POLS 467/867.

487/887. **Economies in Transition** (3 cr) Prereq: ECON 210, or both 211 and 212.

Evolution of formally centrally planned economies (Soviet Union, central and eastern Europe, China) toward more market-oriented and decentralized economies. Includes comparisons of the speed and pattern of institutional changes, performance outcomes and implications for economic development strategies.

## Econometrics

417/817. **Introductory Econometrics** (3 cr) Prereq: ECON 210, or 211 and 212; ECON 215 or equivalent.

Designed to give undergraduate and master's level economics students an introduction to basic econometric methods including economic model estimation and analyses of economic data. Hypothesis formulation and testing, economic prediction and problems in analyzing economic cross-section and time series data are considered.

Also see courses in Quantitative Economics.

## Economic Education

### 450/850. Economics for Teachers (2-6 cr)

Structure and function of the economic system and problems in achieving goals of efficient allocation of resources, full employment, stable prices, economic growth, and security. Emphasis on teaching of economics at the pre-college level.

### 451/851. Economics Issues for Teachers (1-6 cr, max 6)

Application of economic principles to current problems. Includes evaluation of economic education materials, scope and sequence for development of economic concepts in the primary and secondary school.

### 852. Teaching College Economics and Business (3 cr)

### 853. Economics of Education (3 cr)

### 854. Economic Education Research (3 cr)

## Economic History

### [ES] 375. Women and Work in United States History (HIST, WMNS 375) (3 cr) Lec 3.

Transformation of women's role in the USA economy from colonial times to the present and the effects of class, race, and changing perceptions of women's role in society. Role of women in household manufacture, the early factory system, the trade union movement, the Great Depression, the home front of WWII, and the economic emergence of women in the postwar economy.

### [IS] 457/857. 19th Century United States Economic History (HIST 457/857) (3 cr) Prereq: ECON 211 and 212, or ECON 210. Transformation of the United States economy from an agrarian to an industrial society and the impact of that transformation on people's lives and livelihoods. The economics of slavery, the impact of the railroads, immigration, and the collective response of business and labor to industrialization.

### [IS] 458/858. 20th Century United States Economic History (HIST 458/858) (3 cr) Lec 3. Prereq: ECON 211 and 212, or ECON 210.

Transformation of the United States economy in the twentieth century. Attention to the continued consolidation of the business enterprise, business cycle episodes including the Great Depression of the 1930s, organized labor, and the role of government in managing and coping with this transformation in economic life.

## Industrial Organization and Regulation

### 426/826. Government Intervention in Markets (3 cr) Prereq: ECON 212.

Traces the economic and legal incentives for government involvement in the marketplace. Examines why various forms of intervention make sense in certain situations. Attention to defining the limits of allowable competition, and to replacing free market forces with regulation. Analysis of utilities and their evolving regulation.

### [IS] 435/835. Market Competition (3 cr) Prereq: ECON 212. Examination of differing schools of thought about how well a market economy performs. Includes economic analysis and extensive reviews of rivalry among corporations in various sectors of the US economy.

Also see the following economics courses:

ECON 457/857. US Economic History

ECON 458/858. US Economic History

ECON 472/872. Efficiency in Government

ECON 487/887. Economics in Transition

ECON 900. Seminar in Economic Theory & Policy

## Institutional Economics

### 475/875. Theory and Analysis of Institutional Economics (3 cr)

Survey of the basic ideas of Veblen, Polanyi, Commons, Ayres, Galbraith, and Myrdal. Applications of institutional analysis to major economic problems and policies. Examination of the economic system as part of the holistic human culture, a complex of many evolving institutions.

## International Trade and Finance

### (ACE 9) 321. Introduction to International Economics (3 cr)

Prereq: ECON 210, or both 211 and 212.

Intermediate survey of international trade and factor movements; balance of payments; commercial policy; economic integration; international monetary system and institutions; exchange rates; and open economy macroeconomics.

### 421/821. International Trade (3 cr) Prereq: ECON 210, or both 211 and 212; ECON 312.

Determinants of the volume, prices, and commodity composition of trade. Effects of trade, international resource movements, trade restrictions on resource allocation, income distribution, and social welfare.

### 422/822. International Finance (3 cr) Prereq: ECON 210, or both 211 and 212.

Determinants of exchange rates, international payments, inflation, unemployment, national income, and interest rates in an open economy. International monetary system and capital and financial markets, and of the mechanisms by which a national economy and the rest of the world adjust to external disturbances.

For additional international courses, see Comparative International and Regional Development.

## Labor Economics

### 381. Introduction to Labor Economics (3 cr) Prereq: ECON 210 or 211.

History and development of the American labor movement; trends and issues in collective bargaining; economic implications of labor unions.

### 481/881. Economics of the Labor Market (3 cr) Prereq: ECON 210, or 211 and 212.

Microeconomics aspects of wages and employment; determinants of labor demand and supply; marginal productivity; bargaining theories of wages; labor mobility and allocation among employers; and the impact of unions, government policy, investment in human capital; and discrimination in labor markets.

### 482/882. Labor in the National Economy (3 cr) Prereq: ECON 210, or 211 and 212.

Macroeconomics aspects of labor economics; how the labor sector of the economy and the economy's overall performance are interrelated; analysis of the general level of wages, employment, unemployment, business cycles, and inflation.

### 485/885. Government and Labor (MNGT 466/866) (3 cr) Prereq: MNGT 361 or ECON 381.

For course description, see MNGT 466/866.

## Monetary Economics

### 303. An Introduction to Money and Banking (3 cr) Prereq: ECON 210, or both 211 and 212.

Understanding of the nature of money, the commercial and central banking system, and the role of money and monetary policy as determinants of the aggregate levels of national spending and income, output, employment, and prices.

### 365. Financial Institutions and Markets (FINA 365) (3 cr) Prereq: ECON 210 or 211, ACCT 201.

Various institutions which collectively constitute the US financial system and a discussion of their origin and development. Analysis of the supply and demand for funds and characteristics of the main financial markets. Emphasis on the determination of the price of credit and the term structure of interest rates.

### 403/803. Money and the Financial System (3 cr) Prereq: ECON 210, or both 211 and 212.

Basic policy implications of monetary economics with special reference to the role of money in the determination of income, employment, and prices. Includes demand for and supply of money, commercial and central banking system, monetary policy-making, nonbank financial system, and other issues in monetary economics.

### 404/804. Current Issues in Monetary Economics (3 cr) Prereq: ECON 210, or both 211 and 212.

Money as developed by classical and modern economists. Emphasis on origins of money, interest rates, inflation, unemployment, business cycles, rational expectations, fiscal policy,

international aspects of monetary policy, and other related topics in monetary economics.

## Public Finance

### 371. Elements of Public Finance (3 cr) Prereq: ECON 210 or 211.

Economic analysis of current issues in public finance including government policy regarding both expenditure programs and taxation. Federal, state, and local government issues covered, emphasizing tax policy. Orientation of course is for non-majors; stressing applications of basic economic theory which provide insight on policy issues.

### 471/871. Public Finance (3 cr) Prereq: ECON 210, or both 211 and 212.

Microeconomic analysis of policy issues in public finance, emphasizing taxation. Includes public goods and externalities; analysis of tax incidence, efficiency, and equity; and fiscal federalism.

### 472/872. Efficiency in Government (3 cr) Prereq: ECON 210, or both 211 and 212.

Prepares students to conduct social and economic planning, program evaluation, and budgeting. Analysis of the delivery of government goods and services consistent with values and societal goals. Includes: philosophy of government, budget theory, social indicators, social fabric matrix, cost effective analysis, technology assessment, evaluation of the natural environment, and time analysis.

## Quantitative Economics

### (ACE 3) [ES] 215. Statistics (3 cr) Prereq: Sophomore standing; MATH 104/104H or 106/108H; BSAD 150; 2.5 GPA. Credit toward the degree in the College of Business Administration cannot be earned in both ECON 215, and STAT 218 or EDPS 459 or CRIM 300; or in both ECON 215 and SOCI 206. Credit toward the degree in the College of Arts and Sciences cannot be earned in both ECON 215 and STAT 218, or in both EDPS 459 and STAT 218.

Introduction to the collection, analysis, and interpretation of statistical data used in economics and business. Probability analysis, sampling, hypothesis testings, analysis of trends and seasonality, correlation, and simple regressions.

### [IS] 409/809. Applied Public Policy Analysis (3 cr) Prereq: ECON 210, or both 211 and 212; ECON 215 or equivalent.

Experience with research methods in economics. Statistical analysis to investigate economic issues and related policies; find relevant data; perform and interpret univariate and multivariate statistical analyses; and formulate and test specific hypotheses.

### 416/816. Statistics for Decision Making (3 cr) Prereq: ECON 215. Main modern procedures of decision making under conditions of uncertainty. Introduction to Bayesian methods which include the main methods of traditional statistics. Both prior knowledge and consequences of decision error are explicitly taken into account in the analysis.

### 419/819. Topics in Applied Research (3 cr) Prereq: ECON 416/816.

Selected topics involving the use of quantitative methods in applied research.

### 815. Analytical Methods in Economics and Business (AECN 815) (3 cr) Prereq: MATH 104 or 106.

Also see Econometrics area for additional courses in quantitative economics.

## Research and Thesis

Seminar and research courses in specific fields are listed in their respective divisions.

### [IS] 189H. University Honors Seminar (3 cr) Lec 3. Prereq: Good standing in the University Honors Program or by invitation. *University Honors Seminar 189H is required of all students in the University Honors Program.* Topic varies.

### 198. Freshman Seminar (3 cr) Prereq: Permission. Topics vary each term.

### 399. Independent Study (1-3 cr) Prereq: Prior arrangement with and permission of individual faculty member and completion of

proposed plan to departmental office. Special research project or reading program under the direction of a staff member in the department.

**399H. Honors: Independent Study** (3-6 cr, max 6) Prereq: Good standing in the University Honors Program or by invitation. Special research project or reading program.

**499H. Honors Thesis** (3-6 cr) Prereq: Good standing in the University Honors Program or by invitation, and permission. Conduct a scholarly research project and write a University Honors Program thesis.

Refer to the Graduate Bulletin for 900-level courses.

## Finance

### Banking, Finance, Investments, and Real Estate

**Chair:** Professor Gordon Karel

**Professors:** Karel, Peterson, Zorn

**Associate Professors:** DeFusco, Dudney, Farrell, Geppert

**Assistant Professors:** Friesen, Lin, Unlu

The finance major allows a student to pursue the following areas of study: corporate finance, bank management, risk management and insurance, investments, international finance or real estate. The basic course, FINA 361 (required of all students in the College), presents the institutional background, theory, and decision-making skills essential to an understanding of the finance function. This function, in organizations of all sizes, is concerned with the supply of funds and the best organizational use of those funds. A solid understanding of the finance function is becoming ever more essential in the management of public, private, and nonprofit organizations.

Bank management and real estate courses are designed for the student in business administration who wishes to prepare for a career in the financial services industry. International finance concentrates on the international aspects of corporate finance and financial institutions.

The study of investments is important for all students who wish to gain an understanding of the risks and rewards found in securities markets. For students both inside and outside the College of Business Administration, the personal finance course is very beneficial as a primer in personal investments and general financial skills. For the business administration students, the investments area, combined with other electives, offers college preparation for positions in the securities industry and in the investment and trust departments of financial institutions.

The study of risk management will help to prepare a student for positions in the insurance field, an important Nebraska industry.

Interested students should consult their advisers or the department chair when selecting courses to meet their needs.

### Finance Major Requirements

All course work, with the exception of FINA 399, must be taken for a grade (no Pass/No Pass).

The requirements for the major, in addition to the general College requirements, includes 21 hours of credit. While introductory Finance

(FINA 361) can be taken in the sophomore year, the major courses are normally completed during the junior and senior year.

Finance majors must complete the following 12 hours of departmental course work:

FINA 338. Principles of Corporate Risk Management  
FINA 363. Investment Principles  
FINA 365. Financial Institutions & Markets  
FINA 461. Advanced Finance

Two departmental elective courses, from the list below, must also be completed:

FINA 307. Principles of Individual Risk Management & Insurance  
FINA 382. Real Estate Principles & Practice  
FINA 401. Quantitative Financial Analysis  
FINA 412. Life & Health Insurance  
FINA 429.<sup>10</sup> Undergraduate Seminar in Japanese Business  
FINA 438. Enterprise Risk Management  
FINA 450. International Financial Management  
FINA 463. Security Analysis  
FINA 465. Bank Management  
FINA 467. Options Futures & Derivative Securities  
FINA 475. Strategic Financial Management  
FINA 482. Real Estate Finance

One non-departmental elective from the list below must also be completed:

ACCT 308. Managerial Accounting  
ACCT 313. Intermediate Accounting  
ECON 311. Intermediate Macroeconomics  
ECON 312. Intermediate Microeconomics

### Finance Minor Requirements

The finance minor is available to **College of Business Administration students only**. Finance course work used for this minor **cannot** be double counted toward business degree requirements.

To fulfill the requirements for a finance minor, students must complete twelve graded hours of finance course work (no Pass/No Pass) to include the following: FINA 363 and 365, plus 6 hours of 300/400-level finance course work, of which 3 hours must be at the 400 level. FINA 399 may not be used toward the minor.

### Courses of Instruction (FINA)

All students enrolling in CBA courses are required to meet the prerequisites listed for each course, including any specific grade or GPA requirement, to include junior standing for enrollment in most 300 or 400-level business courses.

No finance course may be taken Pass/No Pass, except 399. FINA 399 may be taken on a Pass/No Pass basis with the approval of the instructor and department chair. The course, however, will only count as a general elective in the program.

All 800- and 900-level courses are open only to graduate students.

#### (ACE 6) [ES] 260. Personal Finance (3 cr)

Introductory course in the finance area with concentration in personal financial applications. Includes: income and occupation, expenditures, budgeting, consumerism, taxes, consumer

10 Three hours of FINA 429 may be used for the student majoring in finance. The other 3 hours may be used as a general elective.

credit, banking services, savings and savings instruments, life insurance, social security, annuities, pensions, health insurance and care, automobile, fire, and property insurance, home ownership, investments and securities, mutual funds, and estate planning including wills, trusts, estates, death taxes, and gift taxes.

**307. Principles of Individual Risk Management and Insurance** (3 cr) Lec 3. Prereq: ECON 210 or 211.

Fundamentals of risk management and insurance. The nature and treatment of pure loss exposures, legal principles, property and liability insurance, life and health insurance, social insurance, and the functional and financial operation of insurance companies. Personal risk management.

**338. Principles of Corporate Risk Management** (3 cr) Lec 3. Prereq: FINA 361/361H or ACTS 440/840.

Identification and management of risk at the corporate level. The risk management process and tools for risk management. Diversification, derivative securities, commercial property and liability insurance, and corporate structuring.

**361. Finance** (3 cr) Lec 3. Prereq: Sophomore standing; 2.5 GPA; ACCT 201/201H, or 306; ECON 210 or 211; MATH 104/104H or 106/108H; ECON 215 or STAT 218 or equivalent.

Scope and content of the finance specialization; survey of the major theoretical issues; the financial instruments; analysis of the capital management problems; and development of criteria for financial decision making.

**361H. Honors: Finance** (3 cr) Prereq: Sophomore standing; good standing in the University Honors Program; ACCT 201/201H and 202, or 306; ECON 210, or 211 and 212; ECON 215 or STAT 218; BSAD 150; MATH 104/104H or 106/108H. Prereq for actuarial science, Raikes School of Computer Science and Management, and agribusiness majors: Refer to exceptions for the requirements.

Scope and content of the finance specialization; survey of the major theoretical issues; the financial instruments; analysis of the capital management problems; and development of criteria for financial decision making.

**363. Investment Principles** (3 cr) Prereq: ECON 210 or 211; ACCT 201; FINA 361.

Survey of investment risks and rewards, the operation of the securities business, and an introduction to the problems of qualitative and quantitative analysis and portfolio selection.

**365. Financial Institutions and Markets** (ECON 365) (3 cr)

Prereq: ECON 210 or 211, ACCT 201.

For course description, see ECON 365.

**382. Real Estate Principles and Practice** (3 cr) Prereq: ECON 210 or 211, ACCT 201. *This course may be used towards fulfillment of the Nebraska Real Estate Commission's educational requirements.*

Real estate market: ownership, interests, sales, leases and agencies, special financing institutions, financial aspects of ownership, managerial aspects of brokerage, property valuation, and real estate appraising.

**398. Special Topics** (1-6 cr, max 6) Lec. Prereq: Permission of Department Chair. *Amount of credit to be earned is determined by the instructor at the time of registration.*

**399. Independent Study** (1-6 cr, max 6) Ind. Prereq: Permission. Open only to juniors and seniors majoring in FINA. Special research project or reading program.

**399H. Honors: Independent Study** (3-6 cr, max 6) Prereq: Good standing in the University Honors Program or by invitation; permission of supervising faculty member and departmental chair. Special research project or reading program under the direction of a faculty member from the department.

**401. Quantitative Financial Analysis** (3 cr) Prereq: FINA 361.

Applications of quantitative analysis in financial economics. Rigorous development of time value of money principles, asset pricing models and valuation methods in Finance. Emphasis on the derivation of the basic concepts in financial analysis.

**412/812. Life and Health Insurance** (3 cr) Lec 3. Prereq: FINA 307/307H; FINA 361/361H or ACTS 440/840.

The economic functions of life insurance. The human-life value concept and the basic forms of life insurance and annuities used in insuring life values. Life insurance pricing, functional company operations, legal aspects, and contractual provision. Health and other specialized forms of human-life value insurance.

**413/813. Social Insurance** (ECON 413/813) (3 cr) Lec 3. For course description, see ECON 413/813.

**420. Employee Benefit Plans** (3 cr) Prereq: ECON 210, or 211 and 212; FINA 307.

Analysis of group life insurance, group medical expense and disability income insurance, private pension plans, profit sharing and thrift plans, Section 401(k) plans, individual retirement accounts (IRAs), Keogh plans for the self-employed, group property and liability insurance, and other employee benefits. An analysis of major public policy issues.

**429. Undergraduate Seminar in Japanese Business** (6 cr) *Student may apply only 3 hours towards satisfying the requirements for their major. The other 3 hours will be used as business elective credit. Course offered in English only by the faculty of the College of Business of Senshu University, Tokyo, Japan. Plant and office visits required.*

Japanese business techniques in the five functional areas: accounting, economics, finance, management, and marketing. Historical perspective and current practices are emphasized. Strong academic emphasis as well as lectures by academicians, business people, and civil servants.

**438/838. Enterprise Risk Management** (3 cr) Lec 3. Prereq: FINA 338.

Major and minor pure loss exposures facing business firms, the alternative risk management techniques for dealing with these exposure, the most appropriate technique(s) for controlling each exposure, and the financial results so the risk management program remains effective. Actual risk management audits of business firms and case studies are used to integrate the concepts, techniques, and tools.

**[IS] 450. International Financial Management** (3 cr) Prereq: FINA 361.

International aspects of corporate financial management and financial institutions. Decision making by individual businesses in foreign operations. Explores interaction of multinational corporations and world capital markets with emphasis on quantitative techniques. Current theoretical and practical issues in international finance.

**[IS] 461/861. Advanced Finance** (3 cr) Prereq: FINA 361, 363, and MATH 104.

Advanced development of the finance specialization with major emphasis on the theoretical issues. Application of quantitative techniques and the role of capital markets into the external financing policy of the firm.

**[IS] 463. Security Analysis** (3 cr) Prereq: FINA 361, 363, and 365. Analysis of security instruments; fixed income, equities, and convertibles. Both fundamental and technical analysis treated. Application of computer technique and mathematical models. Selected readings on the theory of investment, institutional dominance, and portfolio management.

**[IS] 465/865. Bank Management** (3 cr) Prereq: FINA 361 and 365. Bank asset management; policy and practices for reserves, loans and investments. Internal organization of commercial banks. New problems and recent innovations in commercial banking.

**467/867. Options, Futures and Derivative Securities** (3 cr) Lec 3. Prereq: FINA 338 or \*863 or ACTS 440/840. The use of derivative securities in risk reduction and portfolio management strategies.

**475. Strategic Financial Management** (3 cr) Lec 3. Prereq: Senior standing, 2.5 GPA; FINA 461/861.

Strategic corporate financial decisions on firm value. Cases and projects that synthesize material from other courses within the finance major and core business classes. The application of financial and business principles in value-based management.

**482/882. Real Estate Finance** (3 cr) Prereq: FINA 382. *This course may be used towards fulfillment of the Nebraska Real Estate Commission's educational requirements.*

Consideration of procedure, instruments, techniques, and trends in financing urban real property; an examination of realty credit markets and sources of funds (private and public); valuation of real property for lending and investment purposes; and measurement of investment performance.

**499H. Honors Thesis** (3-6 cr, max 6) Prereq: Good standing in the University Honors Program or by invitation, and permission. Conduct a scholarly research project. Write a University Honors Program or undergraduate thesis.

**850. Multinational Financial Analysis** (3 cr) Prereq: GRBA 811 or permission.

**855. Capital Markets and Financial Institutions** (3 cr) Prereq: FINA 365 and graduate standing, or permission.

**863. Portfolio Management** Prereq: GRBA 811 or permission.

**899. Masters Thesis** (6-10 cr)

Refer to the Graduate Bulletin for 900-level courses.

ECON 323<sup>4</sup>. Economic Development of Latin America

ECON 388<sup>4</sup>. Comparative Economics Systems ECON 421. International Trade (*credit cannot be earned in both ECON 421 and AECN 420*)

ECON 422. International Finance

ECON 423. Economics of Less Developed Countries

ECON 440. Regional Development

ECON 466<sup>5</sup> and ECON 467<sup>5</sup>. Pro-Seminar in International Relations I & II (Oxford)

ECON 487<sup>4</sup>. Economies in Transition

FINA 450. International Finance

MNGT 398. Special Topics: Pan Pacific Study Tour (*must be graded*)

MNGT 428. International Management

MRKT 453. International Marketing

## Non-Business Courses

\*AECN 346. World Food Economics

\*AECN 367. Agricultural Development in Less-Developed Countries (*credit cannot be earned in both ECON 322 and AECN 367*)

\*AECN 420. International Agricultural Trade & Finance (*credit cannot be earned in both ECON 421 and AECN 420*)

\*AECN 425. Agricultural Marketing in a Multinational Environment

ANTH 350. Native Peoples of Latin America

ANTH 362. Peoples & Cultures of Africa

ANTH 366. Peoples & Cultures of East Asia

GEOG 375. Geography of Asia

GEOG 378. Geography of Latin America

HIST 330/899. Contemporary Europe

POLS 360. Understanding World Politics

POLS 361. The United Nations & World Politics

POLS 362. Globalization, Human Rights & Diversity

POLS 371. Politics & Policy in the European Union

POLS 376. Chinese Politics

POLS 459/859. International Political Economy

POLS 464/864. Political Economy of East Asia

POLS 469. International Law

POLS 474/874. Comparative Institutions

\* *Students may use these courses for the major or ACE 9 or 10; not both.*

## Language

In addition to the study abroad and business courses required for the major, international business majors must also complete 6 hours of upper-level language.

The courses required for the language must be advanced, from **one** language, and include **one complete sequence (one year)**, regardless of a student's point of entrance with previous language instruction. Students must select one of the following to satisfy this requirement.

**Option 1:** A minimum of 6 hours in **one** language, choosing from courses offered at the third year level or above in the following languages: Czech, French, German, Japanese, Russian, or Spanish. All lectures and readings must be conducted in the chosen foreign language for the courses to qualify. Independent study and special topic classes may not be used for this purpose, unless pre-arrangements have been made for the acceptance of study abroad credit.

**Option 2:** For international students pursuing an international business major, choose one of the above options (other than their native language and other than a language in which they are

fluent) or; complete 6 hours of English with 3 hours at the 300 level or above.

The language courses completed for the major may also be used toward a possible minor.

## Study Abroad

In addition to completing course work required for the major, students majoring in International Business are also required to participate in a UNL sponsored study abroad experience. This must be completed while they are in college and requires a minimum of 3 hours of UNL sponsored or approved study abroad credit. International students must study in a country other than the U.S. and their home country.

Students are encouraged to begin thinking about their plans to study abroad during their freshman year by visiting with the advising office staff, and representatives of International Affairs, 420 University Terrace. It is suggested that students begin language and culture courses their freshman year as well. Upper-level course work and study abroad experience should be done sometime in the junior or senior year. The Advising Office will work with students to outline how their study abroad courses will fulfill program requirements.

Because the nature of the major requires careful selection of course work to count for appropriate requirements, students are strongly encouraged to consult with their adviser or a staff member in the Dean's Office for Undergraduate Programs. For specific prerequisite requirements and concurrent registration options, refer to the individual course descriptions.

## International Business Minor Requirements

The international business minor is available to **College of Business Administration students only**. Course work used for this minor **cannot** be double counted toward business degree requirements (with the exception of business electives), major, or other business minor requirements.

To fulfill the requirements for an international business minor, students must complete 12 graded hours (no Pass/No Pass) of international business course work from the list. (Non-business international course work will not work toward the minor.) No more than 6 hours from one department will be allowed to fulfill the international business minor requirement.

## Management

### Organization and Management, Organizational Behavior, Human Resource Management, Leadership, Strategy and Planning, Production and Operations, Management Science, Entrepreneurship, and Information Systems Management

**Chair:** Professor Sang M. Lee

**Professors:** Digman, S. Lee, Luthans, Olson, Schniederjans, Siau, Uhl-Bien

**Associate Professors:** Combs, Nadkarni, Nah, Sebora, Swenseth

**Assistant Professors:** Jones, Mitchell

**Assistant Professor of Practice:** Li

The management major program is designed to help the student develop a conceptual and analytical framework basic to the effective management of businesses and other organizations. The suggested electives in the human resources management track are relevant for those individuals who desire career fields in personnel administration, labor relations, organization development, and related fields. The suggested electives in systems and operations management are especially relevant for those individuals who desire career fields in production and operations management, information systems, and related fields. Students should consult their advisers or a faculty member in management when selecting management electives.

## Management Major Requirements

**All course work for the major must be taken for a grade (no Pass/No Pass).**

The requirements for the major (Module 5), in addition to the general College requirements, consists of 21 hours of course work from the following:

- MNGT 245. Elementary Quantitative Methods
- MNGT 250. Business Programming
- MNGT 320. Principles of Management
- MNGT/ENTR 321. Business Plan Development
- MNGT/ENTR 322. Business Plan Development
- MNGT 361. Personnel/Human Resource Management
- MNGT 365. Managing Diversity in Organizations
- MNGT/ENTR 421. Entrepreneurship & Venture Management
- MNGT/ENTR 422. Small Business Management
- MNGT/ENTR 423. Small Business Growth & Development
- MNGT 428. International Management
- MNGT 429. Undergraduate Seminar in Japanese Business (3 cr)<sup>11</sup>
- MNGT 431. Enterprise Management Systems
- MNGT 437. Computer-Aided Analysis in Decision Making
- MNGT 441. Topics in Management Science for Deterministic Systems
- MNGT 442. Topics in Management Science for Stochastic Systems
- MNGT/MIST 452. Database Organization & Management
- MNGT/MIST 454. Info Systems Analysis & Design
- MNGT/MIST 455. Mobile & Ubiquitous Commerce
- MNGT/MIST 456. Object-Oriented Systems Development
- MNGT/MIST 457. Business Data Communications
- MNGT/MIST 458. Electronic Business
- MNGT 461. Advanced Personnel/Human Resource Management
- MNGT 462. Labor Relations
- MNGT 463. Compensation Administration
- MNGT 464. Human Resource Planning
- MNGT 465. Organizational Theory & Behavior
- MNGT 466. Government & Labor
- MNGT 467. Leadership in Organizations

Many students choose to pursue an emphasis in one of four areas of management, although it is

not noted on the transcript or diploma. The major will be listed as "management", regardless of the emphasis pursued.

## Human Resource Emphasis

Students who wish to emphasize human resources management for the major are encouraged, but not required, to choose their seven management elective courses from the following list:

- MNGT 361. Personnel/Human Resource Management
- MNGT 461. Advanced Personnel/Human Resource Management
- MNGT 462. Labor Relations
- MNGT 463. Compensation Management
- MNGT 464. Human Resource Planning
- MNGT 465. Organizational Theory & Behavior
- MNGT 466. Government & Labor
- MNGT 467. Leadership in Organizations

The following courses should be considered when selecting general elective courses (not applicable to the 21 hour major) for students wishing to emphasize human resources management:

- COMM 325. Interviewing
- COMM 371. Communication in Negotiation & Conflict
- COMM 386. Organizational Communication: Diagnosis & Change
- COMM 486. Organizational Communication
- ECON 381. Intro to Labor Economics
- ECON 481. Economics of the Labor Market
- ECON 482. Labor in the National Economy
- ECON 485. Government & Labor
- PSYC 462. Motivation & Emotion
- PSYC 483. Psychology of Social Behavior

## Entrepreneurship Emphasis

Students who wish to emphasize entrepreneurship for the major are encouraged, but not required, to choose their seven management elective courses from the following list:

- MNGT/ENTR 321. Business Plan Development
- MNGT/ENTR 421. Entrepreneurship & Venture Management
- MNGT/ENTR 422. Small Business Management
- MNGT/ENTR 423. Small Business Growth & Development
- MNGT 428. International Management
- MNGT 429. Undergraduate Seminar in Japanese Business
- MNGT 431. Enterprise Management Systems
- MNGT 437. Computer-aided Analysis in Decision Making
- MNGT 467. Leadership in Organizations

The following courses should be considered when selecting general elective courses (not applicable to the 21 hour major) for students wishing to emphasize entrepreneurship:

- ECON 311. Intermediate Macroeconomics
- ECON 312. Intermediate Microeconomics
- ECON 321. Intro to International Economics
- ECON 389. Current Economic Issues
- ECON 409. Applied Policy Analysis
- ECON 421. International Trade
- ECON 422. International Finance
- ECON 435. Industrial Organization
- FINA 450. International Finance
- MRKT 345. Market Research

<sup>11</sup> Three hours of MNGT 429 may be used for the student majoring in management. The other 3 hours may be used only for general elective credit.

MRKT 346. Marketing Channels Management  
MRKT 425. Retailing Management  
MRKT 444. Logistics  
MRKT 453. International Marketing

### Management Information Systems Emphasis

Students who wish to emphasize management information systems and operations management for the major are encouraged, but not required, to choose their seven management elective courses from the following list:

MNGT 250. Business Programming  
MNGT 431. Enterprise Management Systems  
MNGT 437. Computer-aided Analysis in Decision Making  
MNGT 441. Topics in Management Science for Deterministic Systems  
MNGT 442. Topics in Management Science for Stochastic Systems  
MNGT/MIST 452. Database Organization & Management  
MNGT/MIST 454. Info Systems Analysis & Design  
MNGT/MIST 456. Object-Oriented Systems Development  
MNGT/MIST 457. Business Data Communications  
MNGT/MIST 458. Electronic Business  
MNGT 459. Global Information Technology & Information Systems  
MNGT 462. Labor Relations  
MNGT 463. Compensation Administration  
MNGT 464. Human Resource Planning

The following courses should be considered when selecting general elective courses (not applicable to the 21 hour major) for students wishing to emphasize management information systems and operations management:

ACCT 308. Managerial Accounting  
ACCT 309. Accounting Systems  
ACCT 408. Advanced Managerial Accounting  
CSCE 310. Data Structures & Algorithms  
CSCE 322. Programming Language Concepts  
CSCE 378. Human-Computer Interaction  
CSCE 451. Operating Systems Principles  
CSCE 452. Database Organization & Management  
CSCE 461. Software Engineering  
ECON 311. Intermediate Macroeconomics  
ECON 312. Intermediate Microeconomics  
ECON 417. Introductory Econometrics  
ECON 435. Industrial Organization  
MRKT 346. Marketing Channels Management  
MRKT 444. Logistics  
MRKT 446. Quantitative Analysis in Marketing

### Strategic Management Emphasis

Students who wish to emphasize strategic management for the major are encouraged, but not required, to choose their seven management elective courses from the following list:

MNGT 361. Personnel/Human Resource Management  
MNGT/ENTR 421. Entrepreneurship & Venture Management  
MNGT/ENTR 422. Small Business Management  
MNGT 428. International Management  
MNGT 431. Enterprise Management Systems  
MNGT/MIST 454. Information Systems Analysis & Design  
MNGT/MIST 458. Electronic Business  
MNGT 464. Human Resource Planning  
MNGT 465. Organization Theory & Behavior  
MNGT 467. Leadership in Organizations

The following courses should be considered when selecting general elective courses (not applicable to the 21 hour major) for students wishing to emphasize strategic management.

AECN 442. Agriculture Policy  
ANTH 212. Intro to Cultural Anthropology  
COMM 486. Organizational Communication  
ECON 409. Applied Public Policy Analysis  
ECON 421. International Trade  
ECON 435. Industrial Organization  
FINA 307. Principles of Individual Risk Management & Insurance  
IMSE 201. Technology & Society  
MRKT 345. Marketing Research  
MRKT 346. Marketing Channels Management  
MRKT 443. Consumer Behavior  
MRKT 444. Logistics  
POLS 231. Pressure Groups & Lobbying  
POLS 234. Government Regulation  
POLS 310. Public Organizations  
POLS 459. International Political Economy  
SOCI 470. Sociology of Occupations & Professions

With any of the four plans, courses may only be selected from the approved list. **MNGT and/or MIST 121, 150, 331, 350, 360, 398, 399 (Independent Study), 499 and 475 may not be counted toward the major.** The only exception is MNGT 398 and BSAD 491, which may be counted if they were taken as part of the Pan Pacific Study Tour.

### Management Minor Requirements

The management minor is available to **College of Business Administration students only.** Management course work used for this minor cannot be double counted toward business degree requirements, major, or other business minor requirements.

To fulfill the requirements for a management minor, students must complete twelve graded hours of management course work (no Pass/No Pass) at the 300/400 level.

### Courses of Instruction (MNGT)

All students enrolling in CBA courses are required to meet the prerequisites listed for each course, including any specific grade or GPA requirement, to include junior standing for enrollment in most 300- or 400-level business courses.

No management course may be taken Pass/No Pass except MNGT 398 and 399. MNGT 399 may be taken on a Pass/No Pass basis with the approval of the instructor and department chair. MNGT 398 and 399 will count only as general electives in the program, with the exception of 398, taken as part of the Pan Pacific Study Tour (for a grade).

MNGT 475 is the capstone course for the College of Business Administration. This course is not to be taken until your final year in the program. **All** prerequisites for the course must be completed prior to enrollment. This course is open to CBA students only.

All 800- and 900-level courses are open only to graduate students.

(ACE 6) **121. Introduction to Entrepreneurial Management (ENTR 121) (3 cr)**  
For course description, see ENTR 121.

[ES][IS] **189H. University Honors Seminar (3 cr)** Prereq: Good standing in the University Honors Program or by invitation. *University Honors Seminar 189H is required of all students in the University Honors Program.*  
Topic varies.

**198. Special Topics in Management (1-3 cr)**  
Variety of topics on the undergraduate level.

(ACE 3) [ES][IS] **245. Elementary Quantitative Methods (3 cr)** Prereq: Sophomore standing; ECON 215 or parallel; BSAD 150. Introduction to modern quantitative methods used in decision making in business and economics. Linear models, simplex method, network and scheduling models, inventory models, decision theory, and computer-aided solution methods.

(ACE 3) **250. Business Programming (MIST 250) (3 cr)** Prereq: BSAD 150.  
For course description, see MIST 250.

(ACE 6) [IS] **320. Principles of Management (3 cr)** Prereq: Junior standing.  
Nature and dynamics of managerial organization, planning, communication processes and control problems, leadership and motivation in complex organizations, and executive development.

**321. Business Plan Development (ENTR 321) (3 cr)** Prereq: Junior standing.  
Prospects for a career as an entrepreneur. Framework for selecting, funding, and starting own business. Provide tools and insights to improve the chances for success as an entrepreneur.

**331. Operations and Supply Chain Management (3 cr)** Lec 3. Prereq: Junior standing; ECON 215 or STAT 218; and 2.5 GPA. In addition to specific prerequisites listed, College of Business Administration students must also have completed the following course or their equivalents: BSAD 150; ENGL 101/101H or 150/150H or 151/151H; MATH 104 or 106/106B/108H; JGEN 120; COMM 286; ACCT 201/201H and 202, or 306; ECON 211 and 212, or 210; ECON 215 or STAT 218. Prereq for actuarial science, Raikes School, and agribusiness majors: Refer to exceptions for the requirements.

Analytical management techniques for: ascertaining demand for the organization's goods and services; justifying and acquiring the necessary resources; and planning and controlling the transformation of resources into goods and services. Application in both large and small organizations, private and public enterprise, service, and manufacturing organizations.

[IS] **350. Introduction to Management Information Systems (MIST 350) (3 cr)** Prereq: Sophomore standing; BSAD 150; 2.5 GPA.  
For course description, see MIST 350.

(ACE 6) [ES] **360. Managing Behavior in Organizations (3 cr)** Prereq: Junior standing; ECON 215 or STAT 218; and 2.5 GPA. In addition to the specific prerequisites listed, College of Business Administration students must also have completed the following courses, or their equivalents: BSAD 150; ENGL 101/101H or 150/150H; MATH 104 or 106/106B/108H; JGEN 120; COMM 286; ACCT 201/201H and 202, or 306; ECON 211 and 212, or 210; ECON 215 or STAT 218. Prereq for actuarial science, Raikes School, and agribusiness majors: Refer to exceptions for the requirements.

Foundation of organizational behavior. Perspective, historical background, methodology and theoretical framework for human behavior in organizations. Micro- (perception, personality and attitudes, motivation and learning) interactive (group dynamics, conflict, stress, power and politics, and leadership), and macro- (communication, decision making, organization theory and design, and organizational culture) levels of analysis. Applications for performance improvement and organizational change and development.

(ACE 6) [ES][IS] **360H. Honors: Managing Behavior in Organizations (3 cr)** Prereq: Good standing in the University Honors Program or by invitation; junior standing and a 2.5 GPA. In addition to specific prerequisites listed, CBA students must also have completed the following courses or their equivalents: BSAD 150; ENGL 101/101H or 150/150H; MATH 104 or 106/106B/108H; JGEN 120; COMM 286; ACCT 201/201H and 202, or 306; ECON 211 and 212, or 210; ECON 215 or STAT 218. Prereq for actuarial science, Raikes School, and agribusiness majors: Refer to exceptions for the requirements. *Honors section students have the opportunity to have in-depth discussions based on readings from additional articles and chapters from a supplementary text.*

The foundation and application of organizational behavior. Perspective, historical background, methodology, and theoretical framework for human behavior in organizations. Micro- (perception, personality and attitudes, motivation, and learning) interactive (group dynamics, conflict, stress, power and politics, and leadership), and macro- (communication, decision making, organization theory and design, and organizational culture) levels of analysis. Applications for performance improvement and organizational change and development.

**[ES] 361. Personnel/Human Resource Management** (3 cr) Prereq: Junior standing.

Introduction to the field of Personnel/Human Resource Management. Explores the interrelationship of the Personnel/ Human Resource Department and other organizational units in carrying out such activities as human resource planning, job analysis, recruiting, selection, placement, orientation, training, employee development, performance evaluation, compensation, employee benefits, health and safety, employee relations, discipline, labor relations, affirmative action, evaluation of the P/HR function and international P/HR.

(ACE 6, 9) **[IS] 365. Managing Diversity in Organizations** (3 cr) Challenges and opportunities for maximizing the power of a diverse workforce. Contemporary response to the issues of effective management of pluralistic perspectives and the impact of diversity on organizational climate and productivity. Introduction to diversity competence skill development techniques, strategies, and best practices for organizational effectiveness.

**398. Special Topics** (1-6 cr, max 12) Lec. Prereq: Permission of department chair. *Specific topic covered in any given term and credit awarded is to be determined by the instructor.*

Topic varies.

**399. Independent Study** (1-6 cr, max 12) Ind. Prereq: Junior standing; permission of supervising instructor and department chair. *Pass/No Pass only.*

Special research project or reading program.

**399H. Honors: Independent Study** (3-6 cr, max 12) Ind. Prereq: Good standing in the University Honors Program or by invitation; permission of instructor and department chair.

Special research project or reading program.

(ACE 6) **[IS] 421/821. Entrepreneurship and Venture Management** (ENTR 421/821) (3 cr) Lec 3. Prereq: Junior standing. ENTR/MNGT 421/821 has guest speakers.

For course description, see ENTR 421/821.

**422/822. Small Business Management** (ENTR 422/822) (3 cr) Prereq: Senior standing; ACCT 201/20H and 202/202H, or 306; FINA 361; MNGT 331 and 360/360H; MRKT 341/341H. *Credit toward the degree cannot be earned in both ENTR/MNGT 422/822 and 422A/822A. ENTR/MNGT 422/822 has guest speakers.*

For course description, see ENTR 422/822.

**422A/822A. Small Business Owner** (ENTR 422A/822A) (3 cr) Lec 3. Prereq: Junior standing. *Credit toward the degree cannot be earned in both ENTR/MNGT 422/822 and 422A/822A.*

For course description, see ENTR 422A/822A.

**423/823. Small Business Growth and Development** (ENTR 423) (3 cr) Prereq: Senior standing; ACCT 201 and 202, or 306; FINA 361; MNGT 331 and 360; MRKT 341.

For course description, see ENTR 423/823.

(ACE 9) **[ES][IS] 428/828. International Management** (3 cr) Prereq: MNGT 360. Taught from the perspective of US enterprises operating in the global economy. The manner in which cultural, economic, political, and social differences affect the management of business, governmental, military, and other enterprises is considered. Emphasis on problems of managing in Latin America, Europe, and Asia.

**429. Undergraduate Seminar in Japanese Business** (6 cr) *Student may apply only 3 hours towards satisfying the requirements for their major. The other 3 hours will be used as free electives.*

*Course offered in English only by the faculty of the College of Business of Senshu University, Tokyo, Japan.*

Japanese business techniques in the five functional areas: accounting, economics, finance, management, and marketing. Historical perspective and current practices are emphasized. Strong academic emphasis as well as lectures by academicians, business people, and civil servants. Plant and office visits required.

**431/831. Enterprise Management Systems** (3 cr) Prereq: Senior standing; MNGT 331 or equivalent.

Analytical approach to the design, planning, and control of operations management systems, including domestic and international, manufacturing and service operations.

**437/837. Computer-aided Analysis in Decision Making** (3 cr)

Prereq: Senior standing; BSAD 150; and MNGT/MIST 350.

Analytical and simulation models for decision making in functional areas such as finance, accounting, marketing, personnel, operations, and inventory. Construction of decision models for practical applications. Emphasis on analyzing alternatives and implementing solutions that result in increased productivity.

**441/841. Topics in Management Science for Deterministic Systems** (3 cr) Prereq: Senior standing; BSAD 150; and permission.

Selected topics in operations research and/or management science. Approaches for analysis of deterministically well-defined systems, the techniques' analytical underpinnings, and the foundation and structure of the management sciences approach. Application of the techniques. Linear programming, nonlinear programming, dynamic programming, network analysis, and/or other deterministic topics.

**442/842. Topics in Management Science for Stochastic Systems** (3 cr) Prereq: Senior standing; BSAD 150 and permission.

Selected topics in operations research and/or management science. Approaches for the analysis of systems that change probabilities or incorporate risk and uncertainty, the techniques' analytical underpinnings, and the foundation and structure of the management science approach. Application of these techniques. Decision analysis, game theory, Markovian decision processes, queuing theory, and/or other probabilistic or stochastic topics.

**[ES] 452/852. Database Organization and Management** (MIST 452/852) (3 cr) Prereq: MNGT/MIST 350.

For course description, see MIST 452/852.

**[ES] 454/854. Information Systems Analysis and Design** (MIST 454/854) (3 cr) Prereq: MIST/MNGT 350.

For course description, see MIST 454/854.

**455/855. Mobile and Ubiquitous Commerce** (MIST 455/845) (3 cr) Lec 3. Prereq: MIST/MNGT 350.

The impact of wireless and mobile technology on the ways in which business is conducted and the strategic implications of wireless applications in organizations.

**456/856. Object-Oriented Systems Development** (MIST 456/846) (3 cr) Prereq: MIST/MNGT 350.

For course description, see MIST 456/856.

**[ES] 457/857. Business Data Communications** (MIST 457/857) (3 cr) Prereq: MIST/MNGT 350.

For course description, see MIST 457/857.

**458/858. Electronic Business** (MIST 458/858) (3 cr) Prereq: MIST/MNGT 350.

For course description, see MIST 458.

**459/859. Global Information Systems** (MIST 459/859) (3 cr) Lec 3.

The worldwide political and economic changes in the last decade that have propelled city, state, country governments, and corporations to expand business globally and enter into new markets. Information technology (IT) as a key role in the globalization of businesses. The necessary concepts and ideas to understand the issues in the global or international use of information technology. IT environments around the world, national infrastructures and regulatory regimes, global IT applications, global IS development strategies, global management support systems, ad global IT ,management strategies.

**[IS] 461/861. Advanced Personnel/Human Resource Management** (3 cr) Prereq: Junior standing and MNGT 361.

Review and analysis of current policies, problems, and issues in personnel/human resource management. Application of knowledge of P/HR principles, practices, policies, and procedures to the identification and solution of case problems.

**[IS] 462/862. Labor Relations** (3 cr) Prereq: Junior standing; MNGT 360 or ECON 381.

Interdisciplinary approach to labor-management relations with emphasis on collective bargaining and grievance administration. Appreciation of collective bargaining process gained through actual negotiating of a labor-management contract. On-going union-management relationships explored.

**463/863. Compensation Administration** (3 cr) Prereq: Junior standing and MNGT 361.

Design and administration of compensation systems. Deals with determinants of general level of pay, pay structures, wage and salary surveys, job analysis, job evaluation, performance evaluation, benefit plans, and financial incentive systems.

**[IS] 464/864. Human Resource Planning** (3 cr) Prereq: MNGT 360 or 361, or ECON 381.

Analytic exposure to human resource planning at the level of the organization and builds an understanding of human resource concepts, models, and problem-solving tools. Major activities include strategic planning, human resource planning, analysis of people-related business issues, and forecasting. Policy-setting and long-range planning for such human resource functions as job analysis, recruitment, selection, human resource information systems (HRIS), training and development, management of diversity, and compensation administration.

**[ES][IS] 465/865. Organization Theory and Behavior** (3 cr)

Prereq: MNGT 360 or equivalent.

Behavior and design of the organization as a unit, as well as the individual processes (e.g., influence, coordination, decision making) that are affected by organization design. Organization structure, technology, size, culture, goals and environment are key variables in this analysis. Applications to real-life organizational design problems emphasized.

**466/866. Government and Labor** (ECON 485/885) (3 cr) Prereq: MNGT 361 or ECON 381.

Government regulation of employment and labor relations. Includes laws and agencies relating to employment practices, pay, hours, equal employment opportunity, labor relations, safety, health, pensions, and benefits. Social and economic implications of governmental regulation considered.

(ACE 6) **[IS] 467/867. Leadership in Organizations** (3 cr) Prereq: Senior standing; MNGT 360 and COMM 286.

Exposes students to classic and contemporary theories of leadership. Objective is to enhance the student's understanding of the nuances of leadership as it is practiced and experienced in organizations. Opportunities to assess students' personal leadership capacity, as well as to identify the skills, attitudes and competencies they possess and/or need to develop to assume and distinguish themselves in leadership positions.

(ACE 10) **[IS] 475/875. Business Policies and Strategies** (3 cr)

Lec 3. Prereq: **For MNGT 475:** Senior standing and a 2.5 GPA; major in the College of Business Administration; ACCT 201 and 202, or 306; ECON 211 and 212; FINA 361/361H; MIST/MNGT 350; MNGT 331 and 360/360H; MRKT 341/341H; or equivalent. **For MNGT 475:** ACCT 201 and 202, or 306; ECON 211 or 212; FINA 361/361H; MIST/MNGT 350; MNGT 331 and 360/360H; MRKT 341/341H; or equivalent. **MNGT 475 is open only to students in the College of Business Administration.** Seniors graduating at the end of the current term will have first priority. If class is oversubscribed, non-graduating seniors may be dropped.

Formulation and application of business policies and strategies; analysis of cases using knowledge acquired in basic courses in accounting, economics, finance, human resources, information systems, marketing, and operations. The "C" complexity of business problems and the interrelationship of business functions.

(ACE 10) **[IS] 475H. Honors: Business Policies and Strategies** (3 cr) Prereq: Good standing in the University Honors Program or by invitation; senior standing; major in the College of Business Administration; ACCT 202 or 306; ECON 211 and 212; FINA 361; MIST/MNGT 350; MNGT 331 and 360; MRKT 341; or equivalent; 2.5 GPA. **Seniors graduating at the end of the current term will have first priority.** If class is oversubscribed, non-graduating seniors may be dropped.

For course description, see MNGT 475/875.

**499H. Honors Thesis** (3-6 cr) Prereq: Good standing in the University Honors Program or by invitation, and permission.

Conduct a scholarly research project and write a University Honors Program or undergraduate thesis.

**\*876. Strategic Management** (3 cr) Prereq: Management department approval.

**899. Masters Thesis** (6-10 cr)

## Entrepreneurship (ENTR)

### (ACE 6) 121. Introduction to Entrepreneurial Management

(MNGT 121) (3 cr)

Combines the expertise of Business College faculty with real world experiences of successful practitioners to examine the success principles of the free enterprise system and provide students an understanding of the nature of entrepreneurship and intrapreneurship.

### 291. Special Topics in Entrepreneurship for Non-Business Majors (1-6 cr, max 6) ENTR 291 will not fulfill any of the requirements for a degree in the College of Business Administration. See Schedule of Classes for current offerings.

Variety of topics in small business and entrepreneurship, including, but not limited to marketing, finance, human resources, and operations.

### 321. Business Plan Development (MNGT 321) (3 cr) Prereq:

Junior standing.

For course description, see MNGT 321.

### (ACE 6) [IS] 421/821. Entrepreneurship and Venture Management (MNGT 421/821) (3 cr) Lec 3. Prereq: Junior standing. ENTR/MNGT 421/821 has guest speakers. Analyses of plans written by University of Nebraska—Lincoln students.

The successful planning, implementation, and launching of new business ventures. Characteristics of entrepreneurs and the importance of building networks.

### 422/822. Small Business Management (MNGT 422/822) (3 cr)

Lec 3. Prereq: Senior standing; ACCT 201/201H and 202/202H, or 306; FINA 361; MNGT 331 and 360/360H; MRKT 341/341H. Credit toward the degree cannot be earned in both ENTR/MNGT 422/822 and 422A/822A. ENTR/MNGT 422/822 has guest speakers. Small businesses and owner management. The obligations and operating practices required by ownership of one's own business, whether new or acquired. A consulting project for local small businesses. Case studies relevant to small business.

### 422A/822A. Small Business Owner (MNGT 422A/822A) (3 cr) Lec 3. Prereq: Junior standing. Credit toward the degree cannot be earned in both ENTR/MNGT 422/822 and 422A/822A.

The obligations and operating practices required by ownership of one's own business, whether new or acquired. Interactions with owners of small businesses (e.g., on-site visits and discussions). Cases and projects relevant to small businesses.

### 423/823. Small Business Growth and Development (MNGT 423/823) (3 cr) Prereq: Senior standing; ACCT 201 and 202, or 306; FINA 361; MNGT 331 and 360; MRKT 341.

Financial, human resource, operations and marketing issues that face entrepreneurs whose businesses are confronted with significant growth potential or that have matured. Franchising, initial public offerings, succession and estate planning.

## Management Information Systems and Technology (MIST)

### (ACE 3) 250. Business Programming (MNGT 250) (3 cr) Prereq: BSAD 150.

Fundamental concepts in computing and programming in business. A programming language is chosen based on the ease of learning and its acceptance in the business community; e.g., Visual Basic, JAVA, XML, etc.

### [IS] 350. Introduction to Management Information Systems (MNGT 350) (3 cr) Prereq: Sophomore standing; BSAD 150; 2.5 GPA.

Data and information as important resources to be managed in modern organizations. The role of information systems in organizations and how they relate to organizational objectives and organizational structure. Basic information system concepts. Information flows, uses, relationships and problems. Interaction with information specialists to gain understanding of management issues related to computerized information systems, information systems and business decisions.

### [ES] 452/852. Database Organization and Management (MNGT 452/852) (3 cr) Lec 3. Prereq: MNGT/MIST 350. Database technology and related human and managerial considerations. Databases from two perspectives: the logical view, as the manager and applications programmer see and use the organization's data; and the physical view, as the systems software programmers and database manager view the data. Theory on database organization and the practical applications of databases.

### [ES] 454/854. Information Systems Analysis and Design (MNGT 454/854) (3 cr) Lec 3. Prereq: MIST/MNGT 350 or equivalent.

Methods and methodologies used in systems analysis, design, and implementation. Decision-making process: systems development life cycles, requirement analysis, logical and/or conceptual design, and basic database concepts.

### 455/855. Mobile and Ubiquitous Commerce (MIST 455/855) (3 cr) Lec. Prereq: MIST/MNGT 350.

For course description, see MNGT 455/855.

### 456/856. Object-Oriented Systems Development (MNGT 456/856) (3 cr) Prereq: MIST/MNGT 350.

Object-orientation as an approach to developing information systems. Analysis, design and implementation of systems development from the object-oriented perspective. Concepts in object-orientation, and object-oriented methods and methodologies.

### [ES] 457/857. Business Data Communications (MNGT 457/857) (3 cr) Prereq: MIST/MNGT 350.

Fundamentals of business data communications, networking hardware and software. Communication protocols such as TCP/IP, Internet and electronic commerce.

### 458/858. Electronic Business (MNGT 458/858) (3 cr) Lec 3. Prereq: MIST/MNGT 350.

Management-related topics in electronic business. Conceptualizing and maintaining an e-business strategy. Economic impact of e-business strategies and management practices, models of e-business, electronic payment systems, Internet security, ethics and privacy, and advanced e-business trends and issues.

### 459/859. Global Information Systems (MNGT 459/859) (3 cr) Lec 3.

For course description, see MNGT 459/859.

## Marketing

### Marketing, Marketing Communication, Distribution Channels, Retailing, Sales Management, Marketing Research, Sports Marketing, Consumer Behavior, and International Marketing

Chair: Professor Ron Hampton

Professors: Carlson, Gentry, Grossbart, Sohi

Associate Professors: Ball, Hampton, Kennedy, Saini

Assistant Professor of Practice: Simon

The field of marketing includes many different career opportunities such as advertising, distribution, marketing research, merchandising, marketing communication, retailing, product management, sports marketing, professional selling, and sales management. The management of activities related to the flow of both goods and services from producer to consumer has become increasingly important in this age of consumer-oriented production. This importance has increased the demand for well-qualified persons, both as specialists in technical aspects of marketing and as general marketing managers. New developments are appearing in quantitative analysis of marketing problems, in studies of consumer behavior, in international marketing, and in the social responsibilities of marketing. These developments hold exciting promise for the future.

Academic preparation for some careers is best achieved by combining marketing courses with courses in other departments of the University. For this reason it is important for the student to consult with a faculty member in the Department of Marketing before deciding on a particular course of study. Outside the College, courses in psychology, sociology, journalism, mathematics, communication studies, art, and geography may be helpful.

## Marketing Major Requirements

All courses, with the exception of MRKT 399, must be taken for a grade (no Pass/No Pass).

The requirements for the marketing major, in addition to the general college requirements, are comprised of 18 semester hour credits which must be completed in a specified sequence of courses. Students are strongly encouraged to consult with their adviser to properly plan course schedules to minimize potential problems and maximize the benefits of their marketing education. For specific prerequisite requirements and concurrent registration options, contact the Department of Marketing.

As part of the general college requirements, marketing majors may substitute MRKT 350 for the MNGT/MIST 350 requirement.

The requirements for the major, in addition to the general College requirements, include successful completion of the following courses:

### MRKT 345. Market Research or MRKT 350

Marketing Information Systems (if not selected for core)

### MRKT 346. Marketing Channels Management or MRKT 347. Marketing Communication Strategy

### MRKT 442. Marketing Management

To complete the requirements for a marketing major, the student must take a minimum of 9 additional hours of marketing selected from the following courses:

### MRKT 346. Marketing Channels Management (3 cr) (if not selected for above requirement)

### MRKT 347. Marketing Communication Strategy (3 cr) (if not selected for above requirement)

### MRKT 350. Marketing Information Systems (3 cr) (if not selected or in lieu of MRKT 345)

### MRKT 425. Retailing Management (3 cr)

### MRKT 428. Sports Marketing (3 cr)

### MRKT 441. Marketing & Electronic Commerce (3 cr)

### MRKT 443. Consumer Behavior (3 cr)

### MRKT 444. Logistics (3 cr)

### MRKT 446. Quantitative Analysis in Marketing (3 cr)

### MRKT 449. Marketing Communication Campaigns (3 cr)

### MRKT 450. Strategic Database Marketing (3 cr)

### MRKT 453. International Marketing (3 cr)

### MRKT 458. Sales Management (3 cr)

### MRKT 490. Special Topics in Marketing (3 cr, max 6)

Note that although only one of MRKT 346 and 347 and one of MRKT 345 or 350 is required, a student may elect to take all, two as required and the other two as part of the 9 hours of marketing electives. The marketing curriculum specifies that MRKT 442 be deferred until MRKT 341, 345 or 350, and either 346 or 347 have been completed. MRKT 399 (Special Project) may not be counted toward the major. Students participating in the Pan Pacific Study Tour may use the approved Study Tour courses (MNGT 398 and BSAD 491) as 6 hours of marketing electives for the major.

Marketing majors may minor in textiles, clothing and design by choosing either a Merchandising Track or a Merchandising/Design Track.

Marketing students wishing a textiles, clothing and design minor in the Merchandising Track must take:

TXCD 206. Textiles (3 cr)  
 TXCD 213. Merchandising I: Textile & Apparel Industry (3 cr)  
 TXCD 313. Merchandising II: Merchandise Buying & Control (3 cr)

Select two courses from the following:

- TXCD 405 Advanced Textiles (3 cr)
- TXCD 407. History of Costume (3 cr)
- TXCD 408. History of Textiles (3 cr)
- TXCD 410. Socio-Psychological Aspects of Clothing (3 cr)
- TXCD 413. Merchandising III: Merchandise Development & Sourcing (3 cr)

Marketing students wishing a textiles, clothing and design track of **Merchandising/Design** must take:

- TXCD 141A. Visual Literacy Lab: Color (2 cr)
- TXCD 141B. Visual Literacy Lab: Speculative Drawing (2 cr)
- TXCD 143. Visual Literacy: Art & Design (2 cr)
- TXCD 206. Textiles (3 cr)
- TXCD 213. Merchandising I: Textile & Apparel Industry (3 cr)
- TXCD 313. Merchandising II: Merchandise Buying & Control (3 cr)
- TXCD 314. Visual Merchandising (3 cr)
- TXCD 413. Merchandising III: Merchandise Development & Sourcing (3 cr)

In total, 15 hours of textiles, clothing and design courses are required for the Merchandising Track, and 20 hours for Merchandising/Design.

Marketing students may choose to complete an emphasis in advertising. For a 12-hour emphasis in advertising, marketing majors should take the following:

- JOUR 101. Principles of Mass Media (3 cr)
- ADVT 251. Principles of Strategic Communication (3 cr)
- ADVT 283. Writing for Strategic Communications (3 cr)

One of the following courses:

- ADVT 450. Public Relations Theory, Strategy & Management (3 cr)
- ADVT 451. Advertising & Public Relations Techniques (3 cr)
- ADVT 484. Advertising Management (3 cr)
- ADVT 488. Media Sales & Promotion (3 cr)
- JOUR 485. Mass Media History (3 cr)
- JOUR 486. Mass Media Law (3 cr)
- JOUR 487. Mass Media & Society (3 cr)
- JGEN 498. Special Topics (1-4 cr, max 12)

**NOTE:** JOUR 101 and ADVT 251 have no prerequisites. At least one of the two should be completed before ADVT 283.

ADVT 283 must be completed before any of the 400-level courses.

All other prerequisites are waived for marketing majors.

## Marketing Minor Requirements

The marketing minor is available to **College of Business Administration students only**. Marketing course work used for this minor cannot be double counted toward business degree requirements (with the exception of business electives), major, or other business minor requirements.

To fulfill the requirements for a marketing minor, students must complete twelve graded hours of 300/400-level marketing course work (no Pass/No Pass). MRKT 399 may not be used toward the minor (or major).

## Courses of Instruction (MRKT)

All students enrolling in CBA courses are required to meet the prerequisites listed for each course, including any specific grade or GPA requirement, to include junior standing for enrollment in most 300 or 400-level business courses.

Under an agreement between the College of Journalism and Mass Communications and the College of Business Administration:

- Students majoring in marketing may take advertising courses in the College of Journalism and Mass Communications if they have the necessary prerequisites, a minimum of sophomore standing and a 2.5 grade point average.
- Students majoring in advertising in the College of Journalism and Mass Communications may take marketing courses if they meet the prerequisites for those courses.

**No marketing course may be taken Pass/No Pass, except MRKT 399.** MRKT 399, which does not count toward the 18 hours of marketing required of marketing majors (or minors), may be taken on a Pass/No Pass basis with the approval of the instructor and the department chair. The course, however, will count only as a business elective (Module 6) in the program.

All 800- and 900-level courses are open only to graduate students.

**225. Agribusiness and Food Products Marketing** (AECN 225) (3 cr 1) Lec 3. Prereq: AECN 141 or ECON 210 or 212. *Pass/No Pass option not allowed for College of Business Administration majors.*

For course description, see AECN 225.

**325. Marketing of Agricultural Commodities** (AECN 325) (3 cr 1) Lec. Prereq: AECN 141 and ECON 212.

For course description, see AECN 325.

**[ES] 341. Marketing** (ABUS 341) (3 cr) Lec 3. Prereq: Sophomore standing; ECON 211 and 212, or 210; 2.5 GPA. Prereq for actuarial science, Jeffrey S. Raikes School of Computer Science and Management, and agribusiness majors: Refer to exceptions for the requirements.

The marketing system, its relations with the socioeconomic system, and the influences of each upon the other. Evolution and present structure of marketing institutions and processes. Customer attributes and behavioral characteristics, and how a marketing manager responds to these in the design of marketing strategies, using research, product development, pricing, distribution structure, and promotion.

**[ES] 341H. Honors: Marketing** (3 cr) Lec 3. Prereq: Good standing in the University Honors Program or by invitation; sophomore standing; ECON 211 and 212, or 210; 2.5 GPA. Prereq for actuarial science, Raikes School of Computer Science and Management, and agribusiness majors: Refer to exceptions for the requirements.

The marketing system, its relations with the socioeconomic system, and the influences of each upon the other. Evolution and present structure of marketing institutions and processes. Customer attributes and behavioral characteristics, and how a marketing manager responds to these in the design of marketing strategies, using research, product development, pricing, distribution structure, and promotion.

**[ES] 345. Market Research** (3 cr) Prereq: MRKT 341, and ECON 215 or equivalent.

Introduction to methods and principles of investigation and analysis used in making marketing decisions, from product development to channel decisions, to advertising decisions. Planning studies, proposing studies, conducting data gathering, analyzing and interpreting data, reporting results.

**[ES][IS] 346. Marketing Channels Management** (3 cr) Prereq: MRKT 341.

Basic concepts used in analyzing marketing channels, identifies the issues of designing sound channels, the issues of managing them effectively, and evaluating their performance.

**347. Marketing Communication Strategy** (3 cr) Prereq: MRKT 341.

Role of communication in the marketing process. Integration of advertising, personal selling, sales promotion, packaging, public relations, as well as their social, economic, and legal impact. Emphasis on influence of marketing communication on consumer information processing and decision making processes and determination and evaluation of marketing communication opportunities, objectives, messages, and effort.

**[IS] 350. Marketing Information Systems** (3 cr) Prereq: BSAD 150 or equivalent; MRKT 341; and 2.5 GPA.

Strategic use of information systems for marketing objectives. Basic concepts in information systems structure, organization, and communication. Customer relationship management in Internet and non-Internet environments using marketing databases and software. Identifying market opportunities, developing targets, managing and evaluating promotional efforts using information systems.

**399. Special Project** (1-3 cr, max 3) Prereq: MRKT 341 and approval of study plan by faculty member. *May be offered on a Pass/No Pass basis at the instructor's option.*

For advanced undergraduates with demonstrated ability and special interests in marketing who wish to undertake an individual project under the direction of a faculty member.

**399H. Honors: Independent Study** (1-6 cr, max 6) Ind. Prereq: Good standing in the University Honors Program or by invitation; permission of instructor and departmental chair. Research project or reading program.

**(ACE 6) 425. Retailing Management** (3 cr) Prereq: MRKT 341. Foundations and structure of retailing; role of the retailing executive; decision making in such problems as site selection, layout, organization, personnel policies, planning stock, buying, pricing, promotion, credit, customer services, merchandise control, budgeting, and research.

**426/826. Services Marketing** (3 cr) Lec 3. Prereq: MRKT 341. Services marketing and the services marketing process. Key concepts, issues and terminology. Specific tools and frameworks enabling communication with other professional marketers and analysis of services marketing situations to make realistic recommendations for managerial action.

**428/828. Sports Marketing** (3 cr) Prereq: MRKT 341 or permission.

Basic concepts and theories unique to sports marketing, review of the basic principles of marketing in the context of sports. Framework provided for incorporation of unpredictable nature of the sports industry and exploration of the complex relationships between the elements of sports and marketing. Current research in the area of sports marketing, coverage if the growing popularity of women's sports, and the globalization of sports.

**429. Undergraduate Seminar in Japanese Business** (6 cr) *This course may count only as a free elective for students majoring in marketing. Course offered in English only by the faculty of the College of Business of Senshu University, Tokyo, Japan.*

Japanese business techniques in the five functional areas: accounting, economics, finance, management, and marketing. Historical perspective and current practices emphasized. Strong academic emphasis as well as lectures by academicians, business people, and civil servants. Plant and office visits required.

**[IS] 441/841. Marketing and Electronic Commerce** (3 cr) Prereq: MRKT 341; MRKT 350 or MNGT/MIST 350.

Strategies to deal with opportunities and challenges of evolving technology and marketing in digital networks of customers, suppliers, and employees; different interactive marketing platforms for e-commerce; the future and strategic, societal, and ethical implications of technology and interactive marketing in e-commerce.

**[IS] 442. Marketing Management** (3 cr) Lec 3. Prereq: Senior standing; MRKT major; MRKT 341; MRKT 345 or 350; MRKT 346 or 347. Application of marketing principles to the solution of a wide variety of problems involving influence of the consumer, choice of channels, marketing legislation, and the management of merchandising, advertising, personal selling, sales promotion, pricing, and marketing research.

**[ES] 443. Consumer Behavior: Marketing Aspects** (3 cr) Prereq: MRKT 341.

Application of behavioral science theories, concepts, methods, and research findings to the understanding and prediction of consumer behavior as the basis of decision making by marketing managers.

**444. Logistics** (3 cr) Prereq: MRKT 341.

Examination of physical distribution activities in the marketing mix from the viewpoints of both providers and users of components of logistics systems. Logistics problems of concern to the marketing manager include time and place utility concepts, spatial relationships of markets, channel design, transportation modes, and inventory management.

**446. Quantitative Analysis in Marketing** (3 cr) Prereq: Senior standing; MRKT 341 and ECON 215 or equivalent.

Introduction to the use of quantitative techniques in marketing analysis. Emphasis on understanding and evaluating the applicability of existing models to marketing decision problems in such areas of competitive strategy, marketing mix analysis, pricing, promotion, distribution, and product policy.

**449. Marketing Communication Campaigns** (3 cr) Prereq: MRKT 341 and 347.

Managerial problems involved in the formulation, execution, and evaluation of marketing communication campaigns. Total marketing communication effort examined with particular emphasis to the potential role of marketing communication campaigns, audience identification, campaign objectives and messages, media strategy, and campaign evaluation. Case material dealing with campaigns for products, services, institutions, and political candidates.

**450/850. Strategic Database Marketing** (3 cr) Prereq: For MRKT 450: ECON 215 or equivalent; MRKT 341 and 350. For MRKT 850: ECON 215 or equivalent.

Theory and strategic use of large marketing databases. Advances in theory and practice. Concepts of customer relationship management, integration with electronic commerce systems, analytical techniques, and ethics and practices of customer data privacy.

**[ES] 453. International Marketing** (3 cr) Prereq: 6 hrs marketing.

Marketing problems of international business. Export marketing and domestic marketing of USA products abroad. Influence of international institutions, culture, stage of development, and geography; problems in terminology, product policy, promotion, distribution, research, pricing, and starting marketing operations.

**[ES][IS] 458. Sales Management** (3 cr) Prereq: MRKT 341. Problems of the sales executive in building, directing, and controlling a force of outside sales personnel. Sales forecasting, territory design, expense control. Dealer relationships, merchandising and promotional plans, sales policies.

**490. Special Topics in Marketing** (3 cr, max 6) Prereq: MRKT 341 and permission. Topic varies.

**499H. Honors Thesis** (3-6 cr) Prereq: Good standing in the University Honors Program or by invitation, and permission. Conduct a scholarly research project and write a University Honors Program or undergraduate thesis.

**\*821. Applied Marketing Research** (3 cr) Prereq: GRBA 813 or equivalent, or permission.

**\*822. Survey of Buyer Behavior** (3 cr) Prereq: GRBA 813 or equivalent, or permission.

**\*824. Advanced Quantitative Analysis in Marketing** (3 cr) Prereq: GRBA 813 or equivalent, or permission.

**\*826. Services Marketing** (3 cr) Prereq: GRBA 813 or equivalent, or permission.

**\*830. Strategic Issues in Marketing Communication** (3 cr) Prereq: GRBA 813 or equivalent, or permission.

**\*835. Marketing Channels and Distribution** (3 cr) Prereq: GRBA 813 or equivalent, or permission.

**\*855. Marketing and Globalization** (3-6 cr) Prereq: GRBA 813 or equivalent, or permission.

**899. Masters Thesis** (6-10 cr)

Refer to the Graduate Bulletin for 900-level courses.





# College of Education and Human Sciences

**Marjorie Kostelnik**, Ph.D., Dean and Professor of Child, Youth and Family Studies

**Deb Mullen**, Ph.D., Associate Dean

**L. James Walter**, Ed.D., Associate Dean and Professor of Teaching, Learning and Teacher Education

**Thomas Wandzilak**, Ph.D., Certification Officer, Student Services Center, and Associate Professor of Teaching, Learning and Teacher Education

**James Cotter**, M.S., Director of Advising, Student Services Center

**David Van Horn**, Ed.S., Director of Field Experiences

For additional information or questions contact the Dean's Office, 105 Home Economics Building, 402/472-2916 or the Dean's Office, 233 Mabel Lee Hall, 402/472-5400.

## About the College

## History and Tradition

The College of Education and Human Sciences was founded on August 18, 2004 by Teachers College and The College of Human Resources and Family Sciences with each founding college contributing extensive history and tradition. The College of Education and Human Sciences offers excellent educational advancement to both undergraduate and graduate students, serving approximately 2,300 undergraduates and 1,000 graduate students each year.

The College is a center for research and investigation. The products of these efforts are implemented in the instructional programs, in the development of curriculum, and in service to the

total educational effort both within and outside the state of Nebraska. The College of Education and Human Sciences is dedicated to enhancing the lives of individuals, families, schools and communities and to strengthening the relationships among them.

Education courses first became a part of the University curriculum in 1895 with the organization of a Department of Education designed to prepare students for teaching careers. On Valentine's Day, 1908, the Board of Regents established a Teachers College. Since that time, the College has been highly respected for its programs preparing teachers, administrators, and specialists for the education of children, youth and adults. The quality of these programs is reflected in outstanding educational leadership in communities across the state and the nation in teaching, administration, communication disorders, special education and educational psychology.

Human Sciences had its origins prior to the turn of the twentieth century. The first courses in home economics at the University of Nebraska were offered in 1894. In 1898 a School of Domestic Science became part of what was then known as the Industrial College. After restructuring of the University in 1909, the Department of Home Economics continued for 60 years as a component of the College of Agriculture. It became a School of Home Economics in 1962. In 1970, with action from the Nebraska Legislature, the College of Home Economics with its own administration was created. To better reflect the diversity of programs in the College, the name of the College was changed in 1993 to Human Resources and Family Sciences.

## Mission, Goals and Themes

### Mission

The College of Education and Human Sciences is dedicated to enhancing the lives of individuals, families, schools and communities and to strengthening the relationships among them.

### Values

In pursuing our mission, the faculty, staff, students, and graduates of the College of Education and Human Sciences are guided by shared values that inform every aspect of our work. Specifically, we value:

- **Excellence** in all aspects of the life of the College;
- **Innovation, creativity, and curiosity** as we address the complex issues facing individuals, families, schools, and communities;
- **Respect for diverse people, ideas, voices, and perspectives**;
- **Multidisciplinary approaches to scholarship** that integrate teaching and learning, research, scholarship, and creative activity, outreach, and service;
- **Working together** to positively impact the lives of individuals, families, schools, and communities;
- **Partnering with people in the community** to support the mission and vision of the College of Education and Human Sciences;
- **Emphasizing the creation of new knowledge and its application** to human and community needs thereby combining the strengths of a research and a land-grant university.

## Signature Themes

Four signature themes characterize our work:

Our first commitment is to remain people focused. By understanding the depth and breadth of human life we can affirm and support the efforts of individuals, families, schools, and communities.

We are strengths focused. Starting with ourselves, and extending to our view of others, we look for positive potential. We believe this yields the best possible outcome.

We adhere to a systems perspective. We understand that all action occurs within a context that is larger than any single individual or circumstance, and our obligation is to recognize and respond to the system.

We are professionals whose work is characterized by ethical, evidence-based decision making. We understand and value both qualitative and quantitative inquiry as appropriate forms for gathering and interpreting data.

## Accreditation

Accreditation helps to ensure that graduates of these programs have had formal preparation that meets nationally accepted standards of quality and relevance.

## Education

Programs of study in education are fully accredited by the Nebraska Department of Education and the National Council of Accreditation of Teacher Education (NCATE).

## Human Sciences

All baccalaureate degree programs in the Human Sciences are accredited by the American Association of Family and Consumer Sciences (AAFCS). Nationally, only a small number of schools offering undergraduate programs in child, youth and family studies meet the high standards set by AAFCS for program accreditation. This accreditation requires a commitment to self-regulation and peer evaluation.

The Human Sciences programs of study offered by the College of Education and Human Sciences are the only programs in the State of Nebraska accredited by AAFCS.

## Culinary Science (Culinology®)

The program in culinary science has been approved by the Research Chefs Association.

## Dietetics

The UNL dietetics program meets the current academic requirements (Didactic Program in Dietetics) of The American Dietetics Association. As an approved program, students are eligible to take the registration examination upon completion of the experience requirements.

## Merchandising

The program in merchandising has been approved by the American Collegiate Retail Association.

## Individual Certification

The College offers course work leading to a certification in family life education. Graduates will need to apply for certification and take the appropriate examination.

## Faculty

The College has 137 tenured and tenure-track faculty members who hold doctor of philosophy or doctor of education degrees from accredited universities. Faculty in the College are committed to and active in teaching, research and outreach to the people of Nebraska and the nation. Excellence in teaching and a commitment to students is highly regarded among faculty and many have received outstanding teaching and advising awards from the College and the University.

Faculty members keep abreast of changes within their specialized areas by engaging in research which is widely published. Many are active in national and international professional groups and report their research at these meetings and provide leadership in those organizations.

Over half of the faculty are editors or serve on editorial boards of scholarly journals. With a commitment to teaching, research, and service, College of Education and Human Sciences faculty are annual recipients of national, regional and University teaching awards, including the Contributions to Students awards presented each year by the UNL Parents Association.

## Community Outreach, Centers and Special Programs

The outreach and research activities conducted by the College enhance its undergraduate program and are designed to strengthen Nebraska families and communities. Programs, services and research are conducted by the College through the following centers and special programs.

### Barkley Center Speech-Language and Hearing Clinic

The Speech-Language and Hearing Clinic provides assessment and treatment services for all types of speech and hearing disorders. Clients range in age from infants to geriatrics and display a variety of disorders in areas such as phonology, language, voice, stuttering, hearing, aphasia, cleft palate, and motor speech disorders. Interdisciplinary assessments are available for most suspected developmental and academic learning problems for individuals of all ages. The Clinic accepts insurance, Medicare and Medicaid and provides reduced fees based upon need. The Speech-Language and Hearing Clinic provides practicum experiences for graduate students enrolled in speech-language pathology and audiology programs, and serves as a practicum site for students in fields such as education of the hearing impaired, human development, special education and educational psychology.

## Buros Center for Testing

The Buros Center for Testing is an integral part of the Department of Educational Psychology within UNL's College of Education and Human Sciences. The Center is composed of both the Buros Institute of Mental Measurements (publisher of the Mental Measurements Yearbook, Tests in Print, and Test Reviews Online) and the Buros Institute for Assessment Consultation and Outreach. The Buros Center for Testing provides assessment, and professional consultation to governmental agencies, public schools, and individuals; and preparing the Mental Measurements Yearbooks Database.

## Center for At-Risk Children's Services

The Center for At-Risk Children's Services is a research center housed within the Department of Special Education and Communication Disorders. The center is comprised of a team of experienced professionals committed to evaluating and developing services for children, families and communities.

## Center for Instructional Innovation

The Center for Instructional Innovation was created in 1993 to study the role of language, technology, and thought in education. Among its several current projects are Summer Explorers, an inquiry-based project for inner-city students that combines science and literacy development; the Academy for Reflective Teaching, a professional development experience for teachers; and the Assistive Technology Project, a national survey of users of assistive technology. The Center also provides technical assistance for activities involving educational and technological innovation and presently serves as evaluator for major projects funded by the National Science Foundation, the Environmental Protection Agency, the Satellite Educational Resources Consortium, and the USWest Corporation.

## Cooperative Extension

The Smith-Lever Act of Congress passed in 1914 established Cooperative Extension as an arm of the land-grant college system to provide educational programs for persons not enrolled in the land-grant college. Extension is found throughout the state in 83 county offices that serve all 93 counties at five research and extension centers at Scottsbluff, North Platte, Clay Center, Norfolk, and on the flagship Lincoln campus. Since its beginning, extension has delivered research-based knowledge to people through direct teaching and publications. It still does. But today extension also used exciting new technology such as satellite conferencing and Internet video streaming to link people with information of value to them. The complexities of contemporary living and working are reflected in constantly evolving program priority areas in which extension works: agricultural profitability and sustainability; children, youth and families; community and leadership development; food safety, health and wellness; and natural resources and environment.

## Family Resource Center

Therapy for individual, couple and family problems is offered to students, staff, faculty and residents of Lincoln and surrounding areas. Treatment is confidential, affordable, and meets the highest standards of quality in the field. Services are provided by advanced graduate students in the Marriage and Family Therapy program who are closely supervised by clinical faculty members—each of whom is licensed in the State of Nebraska and has met the qualifications of being an Approved Supervisor. Assessment and treatment focuses on client strengths and existing resources. The student rate for counseling is \$10 per 50-minute session. The center is located on the UNL East Campus. An appointment can be scheduled by calling 472-5035.

## International Quilt Study Center

Approved by the University of Nebraska's Board of Regents on June 23, 1997, the International Quilt Study Center encourages interdisciplinary study of all aspects of quilt making traditions and fosters preservation of this tradition through collection, conservation, and exhibition of quilts and related materials. The Center arose from significant interest and resources available at the University of Nebraska for the study and exhibition of textiles. This unique combination of resources, and the welcoming attitude toward textile study, helped convince Robert and Ardis James that Nebraska was the right institution to serve as home for their collection of antique and contemporary quilts.

Individuals who arrive to study will find available to them the world's largest publicly-owned quilt collection. The Center's Ardis and Robert James Collection contains examples representing the history of quilt making in the United States. It includes quilts dating from the late 1700s to the 1990s made in the United States, Europe, and Japan.

For additional information, visit the Center's Web site at [quiltstudy.unl.edu](http://quiltstudy.unl.edu).

## Nebraska Center for Research on Children, Youth, Families, and Schools

The Nebraska Center for Research on Children, Youth, Families, and Schools is leading an interdisciplinary research effort to find optimal ways to promote the intellectual, socio-emotional, and behavioral adjustment of children and youth.

## Ruth Staples Laboratory Program

The Ruth Staples Child Development Laboratory provides developmental programs for young children which involve students in child, youth and family studies as well as other departments of the University of Nebraska. Serving both teacher training and research functions at undergraduate and graduate levels, the Laboratory offers students and researchers opportunities for observation and study of children through its nursery school program and its day-care center.

## Scholarships and Fellowships

In addition to the scholarships awarded by the University, the College of Education and Human Sciences awards a number of scholarships funded by various donors—individuals, organizations and foundations. Criteria for awarding these scholarships vary to meet the wishes of the donors but often include financial need, academic performance, major area of study and class standing.

Scholarships which vary in amount are awarded annually to incoming first time, transfer and continuing College of Education and Human Sciences students. First-time freshmen need to complete the UNL Application for Admission and the FAFSA. Continuing students should complete, annually, the scholarship application through their WAM account, and include a resume. Completion of the FAFSA is also recommended.

## Academic Advising

The College of Education and Human Sciences Student Services Center is staffed with professional advisers who assist students with assessing educational goals, planning programs of study, understanding program requirements and knowing policies and procedures. As course selection and registration are critical to the timely completion of their academic goals, students are well advised to seek regular academic counseling from their assigned advisers in the Center to obtain the most up-to-date information regarding current requirements and timely completion of degree programs.

The Center is also staffed with professionals to coordinate field placements, student teaching and teaching certificate application.

Ultimately, students are themselves responsible for fulfilling all the requirements of the curriculum in which they are enrolled. The intellectual mentoring relationship between academic adviser and student is protected by confidentiality and strengthened by listening with understanding to student concerns. A student remains with an adviser for the duration of the educational program unless the student changes his/her program of study.

Intellectual mentoring by the academic adviser fosters:

1. Development of an awareness of available choices, alternatives and resources;
2. Guidance with decision making;
3. Encouragement to expand horizons by full participation in university life; and
4. Promotion of readiness to meet career, life and graduate/professional school challenges.

Students are expected to take responsibility for a successful university experience and effective advising sessions by:

1. Participating in orientation/early enrollment programs;
2. Scheduling appointments with advisers prior to priority registration and at other times as needed;

3. Identifying class choices from requirements of the preferred program or major;
4. Identifying questions to address;
5. Informing advisers of any special needs, deficiencies or barriers that might affect academic success;
6. Knowing academic policies and academic calendar deadlines, procedures (e.g., registration, fee payment) and degree or program requirements;
7. Remaining informed about progress in meeting academic requirements by maintaining careful academic records and seeking assistance to resolve any errors or questions; and
8. Following through on recommendations to seek assistance from the various student support services provided by the university.

## Dual Degrees from College of Education and Human Sciences and Other UNL College (Requires Dual Matriculation)

Students in the College of Education and Human Sciences may earn a bachelor of science degree from the College of Education and Human Sciences and a bachelor of science degree from another UNL college. Students must complete the degree requirements for both colleges and a minimum of 30 credit hours beyond their primary college.

## Dual Options Within & Among Departments of The College of Education and Human Sciences

A student in the College of Education and Human Sciences may complete two or more areas of study within the College. Completion of the areas of study will be listed on the transcript. Students must complete the degree requirements for each area of study.

## Endorsements

A student in Elementary, Middle Grades or Secondary Education must complete one field or two subject endorsements. Endorsements are listed on page 256.

## Honors and Awards

A College Student Award Committee determines criteria for awards and recognizes outstanding students.

## Dean's List

A Dean's List of Education and Human Sciences and dual matriculated students who meet the stated criteria is published in the fall and spring semesters. To be eligible, students must have a minimum semester grade point average of 3.75 in 12 or more graded semester hours. Exceptions are made for students taking required courses offered only on a Pass/No Pass basis.

Student teachers and practica students who either 1) enter the semester of student teaching with a cumulative GPA of 3.75 or above, or 2) earn a 3.75 GPA during the preceding semester on the basis of 12 or more graded semester hours, will be eligible for the Dean's List with recommendation from the University supervisor.

Post-baccalaureate students working on certifications are eligible upon request to the Director of Advising, but only undergraduate hours apply.

## Degrees with Distinction

In recognition of outstanding academic excellence, the College of Education and Human Sciences recommends the bachelors degree With Distinction, With High Distinction and With Highest Distinction. All students graduating with distinction must meet the following criteria:

- Candidates must have completed at least 60 hours at UNL (Child, Youth and Family Studies students enrolled at UNO) by the time of graduation.
- Persons in teaching endorsement programs must satisfactorily complete student teaching; persons in non-endorsement programs must satisfactorily fulfill practica or other internship experiences as required by their programs of study.
- Eligibility is based on the cumulative grade point average of all credit hours taken at UNL (UNO) prior to the beginning of the term in which the student receives his or her degree.

**Highest Distinction.** Candidates for the bachelors degree who have successfully completed the program to which they were admitted and achieved a 4.0 cumulative grade point average.

**High Distinction.** Candidates for the bachelors degree who have successfully completed the program to which they were admitted and achieved a 3.950 thru 3.999 cumulative grade point average.

**Distinction.** Candidates for the bachelors degree who have successfully completed the program to which they were admitted and have achieved a 3.850 thru 3.949 cumulative grade point average.

## Student Organizations

### Honoraries

#### Education

**Pi Lambda Theta.** Pi Lambda Theta is a national scholastic honorary organization for students in education. Members must have sophomore, junior, or senior standing and have a GPA of 3.5 or higher.

#### Human Sciences

**Kappa Omicron Nu.** Promotion of scholarship, graduate study, and research are the major objectives of the honorary. Only those individuals who meet the highest scholastic standards are eligible for membership.

**Phi Upsilon Omicron.** Members are chosen based upon scholarship, leadership, service and character.

### Other Opportunities

#### Ambassadors

The mission is to promote pride and develop awareness of college programs and assist with student recruitment. Students are selected by application, represent each department and class rank.

#### Advisory Board

The Advisory Board meets regularly and provides input to the dean and the faculty in a variety of ways. Members of the Board serve on major committees of the College. Any undergraduate student enrolled in the College is eligible to apply to serve.

#### AAFCPS-Pre-professional/Graduate Student section

The student chapter of the American Association of Family and Consumer Sciences is an organization open to all students in the College of Education and Human Sciences. A member may belong to a local chapter as well as to state and national organizations.

#### Council for Exceptional Children (CEC)

The professional organization for special education teachers and personnel. Joining it as a pre-service teacher provides opportunities to further develop knowledge and professional skills related to special education. This is a forum for the discussion and interests of exceptional children. Graduates or undergraduates seeking certification or additional endorsements in special education. To enhance your professional interests and skills related to working with students with disabilities. Meetings are typically held monthly at a time set each semester based on students' and supervising faculty schedules.

#### Culinary®-Restaurant Management Club

Interested in designing the future of food, interacting with industry professionals, developing culinary and management skills? Open to all students with career goals relating to the culinary arts, food product development and restaurant management. Biweekly activities, a business meeting and a professional learning activity, provide leadership and networking opportunities. Participate in club catering activities to support your attendance at national association meetings such as the Research Chefs Association or National Restaurant Association.

#### Montage

Montage is open to all textiles, clothing and design majors. Students promote departmental activities.

#### Nebraska Student Speech, Hearing, and Language Association (NSSHLA)

A national pre-professional organization for undergraduate and graduate students interested in the study of human communication and related disabilities. Group meets twice a month during the fall and spring semesters. Undergraduate and graduate

students who are interested in speech/language pathology and/or audiology or related disabilities. You can receive professional publications, reduced registration fees at selected state and national conferences, opportunities for community service, and eligibility for the NSSHLA to ASHA conversion program at the end of your graduate career. Membership is open throughout the school year. Applications are available at the Barkley Center.

#### Nutrition and Health Promotion Association

The Association welcomes all nutrition and health science majors. The purpose is to foster the professional and educational goals and interests in the fields of dietetics, nutritional science and nutrition, fitness and health promotion.

#### NSAEYC

The student chapter of the National Association for the Education of Young Children, is open to all students in early childhood education. The organization provides networking, leadership, service, and career information.

#### University of Nebraska Student Education Association (SEA)

Affiliated with the National Education Association (NEA), SEA offers students initial entry into a respected professional association. Undergraduate or graduate students majoring in education in the College of Agriculture Sciences and Natural Resources, College of Education and Human Sciences, and Hixson-Lied College of Fine and Performing Arts, are eligible for membership in SEA.

Additional information about these organizations and other interest groups may be obtained in the Student Services Center, 105 Henzlik Hall.

## Career Opportunities

A degree in Education and Human Sciences provides a broad educational background that includes a strong comprehensive education and professional courses which make it possible to enter and progress through a career. The strength of the program makes it possible for professionals to change goals and adapt to the employment marketplace while continuing to serve the needs of people.

Recent graduates of the College hold positions in several areas:

**Business/Management**—careers include, among others, retailing; investment, insurance and commodities sales; public relations and finance; and marketing.

**Design-Oriented**—careers include textile design, apparel design, fashion illustration, visual merchandising, and product development.

**Education**—careers include teaching in elementary, junior and senior high schools; extension education; government, business and industry.

**Health Care**—careers include dietetics, rehabilitation, and gerontology, among others.

**Human Services**—careers include social work, administration, law enforcement, program planning and management; gerontology; human services; job, family and personal counseling.

**Journalism/Communication**—careers include broadcasting, news editorial, and advertising.

Some students may elect to pursue graduate study to prepare for careers in university-level research and teaching.

Students are encouraged to discuss with their advisers and other faculty the variety of career opportunities which may be available to them.

## International Opportunities

Because today's graduates interact with students of many backgrounds and cultures, students are strongly encouraged to study abroad as a part of their undergraduate preparation.

The College is committed to preparing students to function in a global, culturally diverse and changing society. The success of the College's graduates will be enhanced by knowledge of a foreign language and understanding of other cultures. A global perspective is developed in many of the College's courses and study abroad is encouraged. The College offers a minor in international studies which includes a study experience in another country. Contact the Student Services Center for requirements.

The College sponsors overseas programs for students in the College and works closely with the International Affairs Office of the University to see that students are aware of the many study abroad opportunities that exist for UNL students. The College is affiliated with The American College in London; Queen Margaret College, Edinburgh, Scotland; and the University of Newcastle, New South Wales, Australia.

Proficiency in a foreign language is not required for all international programs. Foreign language study, however, is often a part of the programs. Students should contact either the International Affairs Office, 1237 R Street or the Student Services Center.

## Admission to the College

Students accepted by the University must have an ACT of 20 or SAT of 950, or rank in the upper half of their high school graduating class, and have the following high school preparation to be eligible for admission to the College of Education and Human Sciences.

- four years of English that include intensive reading and writing experience;
- two years of one foreign language;
- four years of mathematics, that include Algebra I, II, geometry and one year that builds on a knowledge of algebra;
- three years of natural sciences that include at least two years selected from biology, physics, chemistry, and earth science and one year of laboratory instruction;
- three years of social studies, that include at least one year of American and/or world history and one year of history, American government, and/or geography.

## Deficiency Removal—Teacher Education

Students admitted to the University with three or more high school deficiencies, or two deficiencies in a single category other than foreign language, will not be admitted to a teacher education program until such deficiencies are removed.

## Math Placement Exam (MPE)

Students admitted to the College of Education and Human Sciences are required to take the Math Placement Exam prior to enrolling in required math courses. The results of the placement exam determine which math course a student will take. If students lack sufficient high school preparation in math to take the required math course, exam results will indicate a need to enroll in equivalent high school algebra courses, such as MATH 95C (not for college credit) or MATH 100A (may be taken for college credit but does not apply toward graduation requirements). The purpose of the Math Placement Examination is to assure that students are sufficiently prepared to handle college level math courses.

## Transfer and Readmitted Student Requirements

Transfer students from universities or colleges outside of UNL and readmitted students seeking admission to the College of Education and Human Sciences must have an accumulated average of 2.0 on a 4.0 scale or above and no high school deficiencies. Students who do not meet these requirements must enroll as deciding students in the Division of General Studies or in another college. Once they have completed 12 graded hours at UNL with a minimum 2.0 grade point average, and have removed any high school deficiencies, UNL students may apply for admission to the College.

Transfer and readmitted students must meet the graduation requirements for the College of Education and Human Sciences as stated in the current catalog in effect at the time they enter or reenter the College.

Students who left the College on probation or who were dismissed may seek readmission to the College after two semesters by applying to the UNL Admissions Office. Readmission is not assured. However, the admissions committee is receptive to giving students a second opportunity to be successful. The committee is interested in knowing what the student has done in the intervening period that would suggest the student will be successful when readmitted. Successfully completing correspondence courses and/or community college courses is an effective way to demonstrate one's commitment to academic success.

## Transferring from Other Colleges at UNL

Students transferring to the College of Education and Human Sciences from another University of Nebraska—Lincoln college or from the Division of General Studies must have a minimum cumulative GPA of 2.0, be in good academic standing, and

meet the freshman entrance requirements that exist at the time of their admission to the College of Education and Human Sciences. All admission deficiencies must be removed prior to admission to the College. Students must **fulfill degree requirements that exist at the time of their admission to the college, not at the time they enter UNL**.

To remain current, College of Education and Human Sciences students must enroll in, and complete, at least one UNL course that will apply toward degree requirements during a 12 month period. Students who readmit following an absence of one year or more must meet all requirements in the undergraduate bulletin in effect at the time of readmission and enrollment. Students who transfer to another UNL college and later return to the College of Education and Human Sciences will be considered readmitted students. Students who transfer out of a teacher education program, but who continue their certification program while seeking a degree in another UNL college, are exempt from this policy.

## Acceptance of Transfer Grades

### Grades Earned at UNL, UNO, UNK

Grades of D-, D, D+, and C- satisfy requirements in all programs in the College unless specified otherwise under the "Degree Programs and Requirements in Education (Teacher Preparation)" on page 253, "Courses of Instruction in Education" on page 260, or "Areas of Study in Human Sciences" on page 268 of this bulletin. Students who receive a grade of D-, D, D+, C-, however, are encouraged to retake the course.

### Grades Earned Outside UN System

The college will accept no more than 9 credit hours of grades less than a C from any program outside the University of Nebraska system. Grades below a C can only be applied to general education requirements and elective classes.

## Maximum Number of Hours for Transfer

Transfer courses are evaluated by the University and the College to determine UNL and College course equivalencies. The College determines which courses will be accepted and how they will apply toward degree requirements. Sixty-six (66) is the maximum number of hours that will be accepted on transfer from a two-year college. Ninety-five (95) is the maximum number of hours that will be accepted on transfer from accredited four-year colleges and universities.

Courses taken 10 years before admission or readmission to the College will be evaluated by the major department to determine if it is appropriate to accept those courses for transfer and application to degree requirements. Specific courses will be reviewed in keeping with the guidelines specified by each department.

## Transfer Credit from Technical, Non-Accredited and Foreign Institutions

Students who desire to transfer from these institutions must have each course evaluated by the appropriate departmental representative. All rules

stated above in reference to grades and maximum credit hours apply. For additional information and guidance in this process contact the Dean's Office.

### Transfer Agreements with UNO and UNK

Transfer agreements between the three institutions within the University System allow for a smooth transition for students interested in taking courses from UNO, UNK, and/or UNL. Although restrictions noted above on grades and maximum transfer hours still apply, there are some exceptions. For purposes of residency, courses from UNO and UNK fulfill these requirements. Students planning to major in a program in the college should read the specific requirements noted with individual programs. Questions about academic transfer should be addressed to the Dean's Office.

### Transfer Agreements with Community Colleges

Articulation agreements and "Transfer with Ease Programs" with Nebraska community colleges indicate how courses and programs will transfer to UNL and the College of Education and Human Sciences. The same guidelines noted above on the acceptance of courses, grades, and hours also apply to these institutions. Students interested in transferring from a community college should consult with their school or the Student Services Center to determine which courses will transfer to fulfill specific College of Education and Human Sciences requirements.

Courses from accredited two-year institutions will generally not be substituted for 400-level human sciences classes in the College. The 300-level courses will be considered on an individual basis by the respective departments in the College of Education and Human Sciences.

- Courses taken prior to course articulation agreements will be accepted contingent upon departmental validation of the credit.

### International Students

The College of Education and Human Sciences welcomes undergraduate international students. As a part of admission to the College, international students must present a TOEFL score of 550 or higher, and TSE score of 230 or higher.

Students seeking teacher education and state certification must meet the same requirements as any other undergraduate students, including the Pre-Professional Skills Test or other basic skills test approved by the Nebraska Department of Education. Students who have received a degree outside of the United States and are interested in teacher certification are required to have a transcript review completed by an approved agency not directly associated with the University of Nebraska. See the director of advising in the College Student Services Center for details.

## College Academic Policies

### Registration

College of Education and Human Sciences students are encouraged to meet with their assigned academic adviser prior to registration for any term (fall, spring and summer sessions). There are no restrictions on enrollment in 100- and 200-level education courses, and students from other colleges wishing to explore a career in education are invited to enroll in courses at this level. Courses at the 300 and 400 levels are typically restricted to upper-class students and those students admitted into teacher education programs. All prerequisites to College courses must be met prior to enrollment.

### Academic Load

A maximum of 18 credit hours may be taken each semester (4 hours in the Pre Session; 7 in each five week session; 9 in the eight week session) without special authorization from the Director of Advising. UNL students must be enrolled in 12 hours in a semester to be considered full time. Most first-year students are advised to take no more than 12-15 credit hours in the first semester. This allows new students to make an easier transition from high school to college study. Most students require 2-3 hours of preparation for every hour in class, so a schedule of 12 credit hours is actually equivalent to a 36-48 hour a week job.

Outside work may interfere with academic success. The student who must work should plan to take a lighter load and consider taking some summer sessions or an extra semester or two to complete the work required for a degree.

Students should check if restrictions on the number of graded hours each term govern their continued eligibility for medical insurance, scholarships, and/or financial aid.

### Special Requests for Substitutions and Waivers

In rare cases, there may be a need for students to request a special substitution or waiver to curriculum requirements. Such a request is made only in exceptional and unusual circumstances and cannot serve as an excuse for not following correct degree requirements. Specific instructions and procedures are available from students' academic advisers in the Student Services Center, 105 Henzlik Hall.

### Credit by Exam

Students who believe that previous experience satisfies course requirements may approach the appropriate academic department for possible credit by exam options. Credit is rarely given simply for work experience.

### Grade Appeals

Any student enrolled in a course in the College of Education and Human Sciences who wishes to appeal alleged unfair and prejudicial treatment by a faculty member shall present his/her appeal in writing to the Dean's Office no later than 30 days after notice of the student's final course grade has been mailed from campus.

Students may use and are encouraged to use the following sequential procedures to appeal the grade. The problem may be solved at any of the levels of the appeal procedure.

1. Contact the instructor. Frequently the problems can be solved at this point.
2. Submit a request to the chair of the department.
3. Take the case to the departmental Grading Appeals Committee. The Committee is contacted by the department chair.
4. Take the case to the College Appeals, Retention and Certification Committee by contacting the Dean's Office.

The complaint will be forwarded to a committee consisting of faculty and student representatives. After a hearing, the Committee will make a written recommendation regarding the appeal. The Committee's recommendation is binding on the appealing student and faculty member.

### College Graduation Requirements

**Degree Application.** It is the student's responsibility to notify Graduation Services, 109 Canfield Administration Building, early in the semester the student plans to graduate. Failure to meet the published deadline will delay graduation one full term.

### Program Evaluation and Assessment

College wide assessment and department assessment committees, comprised of faculty and students, assist the college/departments in evaluating the effectiveness of programs. Students participate in college-wide surveys, exit interviews and portfolio development. Student involvement in assessment will in no way affect a student's GPA or graduation. In addition, graduates may be asked to participate in post graduation surveys which seek information about professional preparation and employment.

Students in education teaching endorsement programs are required to do any or all of the following, prior to graduation:

- pass a test that measures subject area knowledge;
- have their teaching performance judged to be satisfactory by professional evaluators;
- complete the appropriate Praxis II tests for their respective endorsement areas and grade levels.

# Degree Programs and Requirements in Education (Teacher Preparation)

## Degree and Majors

The College of Education and Human Sciences offers an undergraduate bachelor of science in education and human sciences degree. The College offers undergraduate programs leading to a bachelor of science in education and human sciences in more than 40 different teaching endorsements and in undergraduate programs leading to careers in fields, such as administrative resource management and technical education.

Some students in other colleges choose to seek certification, completing a degree in their home college while meeting all requirements for teacher certification in the College of Education and Human Sciences.

Early field placement in public and private schools is a nationally recognized hallmark of the teacher education program in the College of Education and Human Sciences. These placements permit students to gain classroom experience early in their University studies, allowing them an opportunity to know both the satisfactions and the pressures of the classroom atmosphere long before they approach the end of their undergraduate work.

## Residency Requirement

A minimum total of 125 credit hours of course work in teacher preparation programs is required for a bachelors degree in education and human sciences, of which 30 of the last 36 must be taken in residence at UNL. **Independent Study and summer reading courses sponsored by the UNL Extended Education do not apply to residency.**

## Residency Requirement and Study Abroad Courses

Credit earned during study abroad may be used toward degree requirements if students participate in prior approved programs and register through UNL (see "Study Abroad and Exchange Programs" on page 20).

## Grade Requirements in Education Programs

Requirements for completion of an undergraduate degree in a teacher preparation program include a minimum cumulative grade point average (GPA) of 2.5. Students seeking certification must also have a 2.5 GPA in their education courses with no grade lower than a C. Students are also required to have a 2.5 GPA in their subject endorsement area(s) with no grade lower than C in either area.

## Restrictions on C- and Below Grades for Degrees in Education

Grades below C (C-, D+, D and D-) may not be applied in any endorsement, professional education requirement or non-teaching major professional course requirement in degrees leading to teacher preparation.

Up to 9 hours of transfer credit with grades below C may be applied to the General Education requirements and elective classes in programs leading to the undergraduate degree in teacher preparation. Transfer grades of C- and D may not be used in the major/endorsement area courses or in the professional courses in teacher preparation programs.

## Pass/No Pass Grade Option—Education

A student enrolled at the University may, in certain instances, take a grading option of Pass/No Pass (P/N) for a specific course. A grade of pass represents satisfactory completion of a course with a grade of C or better. Credits earned under the pass grade option count toward graduation, but no grade points are tabulated in the cumulative grade point average. Likewise, a grade of no pass is not tabulated in the grade point average. The following rules apply to students who are enrolled in teacher preparation programs who choose the Pass/No Pass option:

1. Only one course in each subject endorsement; two courses in a field endorsement.
2. For students in certification programs, pre-professional and professional education classes may not be taken Pass/No Pass unless a class already has a Pass/No Pass designation
3. Any course in the general education requirements unless otherwise stipulated by the department of the course.
4. Total P/N credits may not exceed 12 credit hours. This limit does not include courses offered on a Pass/No Pass only basis.

Students who are admitted through the Admission by Review process with core course deficiencies will have certain conditions attached to their enrollment at UNL. These conditions are explained under "Removal of Deficiencies." on page 6.

## Felony and Misdemeanor Convictions

The Nebraska Department of Education policy requires that a person with any felony conviction or a misdemeanor conviction involving abuse, neglect, or sexual misconduct shall not be allowed to participate in pre-student teaching laboratory and classroom experiences or student teach without approval of the Board of Education. To comply with this policy, the College of Education and Human Sciences will require each student to affirm under oath that he/she does not have any convictions in the above-named areas prior to each field experience. If a student does have any felony or any misdemeanor convictions, he/she is required to meet with the Certification Officer or the Director of Field Experiences as soon as possible.

To ensure that each individual complies with this policy, all students who are pursuing a teaching certificate will be required to periodically complete a

"Personal and Professional Fitness" form (PPF) as well as submit to two formal reviews of their criminal history, which is conducted by an independent third party. The first review will be completed during the first semester of the individual's freshman year or upon the individual's transfer into the College of Education and Human Sciences. At that time, each student will complete the PPF form and will also be expected to submit a request for the review of their criminal history. The PPF form will again be completed and submitted as a part of the application process for the Teacher Education Program. The final review, including the submission of the PPF form and the completion of a second criminal history check, will take place as part of the application process to student teach. Each student is responsible for the cost of the two criminal history reviews.

## Professional and Ethical Behavior

Teaching is a profession that requires its potential candidates to be individuals of integrity. Prospective teachers must be able to demonstrate that they are individuals of strong moral character who can make mature decisions for themselves and for their students. Teachers are responsible for the education, safety and well-being for anyone in their charge. Therefore, the College of Education and Human Sciences is interested in training future teachers who show a high degree of moral character and the ability to act responsibly. These individuals must be able to serve as representatives of our College and the University of Nebraska—Lincoln.

With this in mind, it is the responsibility of the student to inform the Certification Officer or the Director of Field Experiences of any convictions handed down by any court or any plea of guilty made by the individual. At that time, should the College, through its reasonable judgment, determine that one's individual behavior represents a lack of integrity, questionable moral/ethical character, or otherwise indicates a potential of risk to young persons and others in the educational community, the College of Education and Human Sciences reserves the right to deny entry to or dismiss anyone from any program which leads to certification. More specifically, these kinds of behavior shall be adequate foundation to deny any candidate or potential candidate from participation in any practicum, pre-practicum, student teaching or similar field experience, since the interests and safety of the children, schools and other venues where these practicum experiences take place are paramount.

Problematic behaviors, which the College of Education and Human Sciences reasonably determines renders the candidate a risk to the educational community or demonstrates a likelihood of illegal activity, may be established by any credible means, including the facts surrounding a record of arrests and/or convictions.

Similarly, behaviors which result in a finding by a court or other governmental body that the individual is:

- a mentally ill and dangerous person;
- mentally incompetent to stand trial;
- acquitted of criminal charges because of insanity;

- an incapacitated person;
- a person in need of a guardian or conservator, or;
- a person unable to manage his or her property due to mental illness, mental deficiency, or chronic use of drugs or chronic intoxication are the kind of behaviors which are likely to disqualify a candidate from participation in practicum experiences and other College of Education and Human Sciences programs.

## Student Classification for Students Pursuing Teacher Education

### Pre-Education

All newly admitted students who are pursuing a teacher preparation program, except those in non-teaching majors, are classified as pre-education until admitted to a Teacher Education Program.

### Admission to a Teacher Education Program (TEP)

Admission to the College of Education and Human Sciences does not guarantee admission to a teacher education program. Admission to the advanced phases of teacher education is selective and, in some endorsements, highly competitive. Selection to a TEP is based upon the following criteria:

1. Elementary education students must earn a minimum of 30 credit hours of college credit; secondary education students must earn a minimum of 42 credit hours of college credit.
2. Completion and submission of the Teacher Education Program Approval Form.
3. Completion of TEAC 331 or 430 or 431 or 434 or 437 or 496 (3 hrs) or approved transfer course, **and** EDPS 250 or 251 with a 2.5 cumulative average in the two classes, and no grade lower than C.
4. Documentation of proficiency in reading, writing, and mathematics through successful completion of a basic skills examination that meets the Nebraska Department of Education competency requirement.
5. Completion of one course in communication studies selected from COMM 109, 205, 209, 210, or 286, or approved substitute.
6. Faculty recommendations.
7. Completion of a personal and professional fitness self-disclosure form as well as the completion of a formal criminal history review. (See Felony and Misdemeanor Convictions above.)
8. Specific programs may have particular learning outcomes that students must address as part of the application process.

### Post-baccalaureate Students Seeking Initial Teaching Certification

Students who have received a bachelors degree or higher and desire to obtain an initial teaching certificate may do so by pursuing a non-degree post-baccalaureate initial certification program with or without a masters degree. They must apply

to the Graduate College for admission to the University of Nebraska-Lincoln and apply to a Teacher Education Program (TEP) for admission to the initial teaching certification program. Students are also required to apply for admission to a degree program if they desire to pursue a masters degree with their certification program. All students seeking initial certification must meet with the post baccalaureate assistant academic adviser. Those seeking a masters degree will also meet with a faculty adviser. Post-baccalaureate students interested in completing a teacher education program should refer to this bulletin as to policies and regulations for program completion. For specific guidelines, see the Student Services Center.

### Admission to Student Teaching

All students who are candidates for an appropriately endorsed Nebraska Teacher's Certificate are required to student teach. Students who plan to student teach in the fall semester must complete the student teaching application form and submit it by the preceding March 1 to the Director of Field Experiences in 104 Henzlak Hall; students planning to student teach in the spring semester must apply by the preceding October 1. The basic program for student teaching provides for a full-day experience on a semester basis. Students enrolled in an elementary education dual major will complete requirements for student teaching in both majors. Admission to student teaching requires the following:

1. Matriculation in a teacher education program in the College of Education and Human Sciences, the Graduate College, or dual matriculation in the College of Education and Human Sciences and another college.
2. Admission to a teacher education program.
3. Senior standing (89 hours or more) with a minimum cumulative GPA of 2.5.
4. Minimum average of 2.5 in each endorsement area with no grade below C.
5. A minimum grade point average of 2.5 in pre-professional and professional education courses and no grade below C in pre-professional education courses and no grade below a C+ in professional education courses.
6. Completion of a criminal history check that will be conducted by an independent party (fee required).

### Student Teaching Registration Requirements

Undergraduate students are required to take 12 credit hours of student teaching or student teaching related course work during a semester-long student teaching experience. Those individuals who are completing two field endorsements will student teach for 20 weeks and will register for a total of 14 credit hours. Graduate students completing a semester-long student teaching experience will register for 6 graduate hours for either a 16 or 20 week experience.

All pre-professional education, professional education, and subject area endorsement course work must be completed prior to student teaching. Students will not be allowed to student teach with anything more than 6 credit hours of general

education requirements remaining for their degree or in their program. No additional course work can be taken during the student teaching semester.

### Student Teaching Placement

The Office of Field Experiences is responsible for the placement of student teachers. Several factors are considered in determining the district and school to which an individual is assigned. The availability of a cooperating teacher and supervisor who meet the requirements established by the Nebraska Department of Education and the University of Nebraska-Lincoln are among those factors. Opportunities to student teach out-of-state are limited and those placements are becoming increasingly difficult. All requests to student teach outside of the immediate Lincoln area must be individually reviewed and approved by the Director of Field Experiences.

### Senior Check

During student teaching, all students must apply for and have completed a senior check.

### Removal from Student Teaching

Students participating in practicum or student teaching assignments may be removed from their assigned schools if their conduct suggests a lack of professional commitment and presents a negative influence on the well-being or learning of the students in the schools. Specific guidelines that all student teachers are to follow can be found in *The Student Teaching Experience: A Handbook for the University of Nebraska-Lincoln*. If such a problem occurs, the student in question will be removed by the Director of Field Experiences at the request of the cooperating teacher, building principal, and the College supervisor.

In such cases, a written report stating the problem and efforts to correct the situation will be forwarded to the Director of Field Experiences in the College Student Services Center.

Any student removed from a practicum or student teaching assignment may appeal that decision by submitting a written request to the College Appeals Committee within 30 days of the removal. The Appeals Committee will schedule a meeting, request pertinent information from the Director of Field Experiences, and notify the student several days in advance of the scheduled appeal meeting. Students are advised of their right to seek legal advice and may personally attend the Appeals Committee meeting.

The Committee's decision will be forwarded in writing to the student, to the Director of Field Experiences, and to the Dean of the College.

### Praxis II

All students completing a program leading to a teaching certificate with an endorsement in elementary grades (Grades K-6) will be required to take the EECIA-00011 version of Praxis II before graduation. Test completion will be documented through official test score results.

Students will not be allowed to graduate unless this test is completed.

## Application for a Nebraska Teaching Certificate

To actively engage in the teaching profession, a candidate must fulfill both the College degree requirements and the professional certification requirements of the State of Nebraska. Undergraduate students apply for the teaching certificate online at [www.nde.state.ne.us/tcert](http://www.nde.state.ne.us/tcert) and apply for the baccalaureate degree in 109 Canfield Administration Building. Post-baccalaureate students completing teacher certification also apply online.

To be eligible for a recommendation for certification, a candidate must meet the following requirements:

1. Earn one or more degrees from the College of Education and Human Sciences or another accredited institution approved by the College of Education and Human Sciences with a minimum 2.5 grade point average.
2. Complete the teacher education general education requirements listed for elementary, middle grades or secondary education.
3. Complete professional education requirements according to established standards.
4. Complete endorsement(s) according to established standards.
5. Successfully complete a required period of student teaching.
6. Complete application for the degree and certificate.

## Graduation Without Certification

In rare cases, permission may be granted for a student to graduate without a recommendation for certification. This provision is for the student who does not qualify for or is removed from student teaching. However, there are times when because of illness or other extreme situations, a student will decide not to complete all professional requirements. In this situation, the student should contact his or her adviser, then complete a formal request to the College's Certification Officer to be allowed to graduate without completing all certification requirements. If permission is granted, the student is expected to complete all professional requirements except student teaching. This includes a passing grade in all methods courses. If a student fails to complete at least one half of the student teaching assignment, the individual will be required to complete a culminating project not to exceed 6 credit hours.

**Any student who graduates without a recommendation for certification will not be recommended for teacher certification in any state.** In addition, the student will not be eligible for graduation with honors. If, at some future time, the student wishes to complete certification requirements, (s)he must first appeal for readmission to a teacher education program. At least one semester must pass after graduation before the appeal can be made. If the appeal is granted, the student will be treated as a readmitted student and will complete all requirements in effect at the time of reentry, including passing grades in all methods courses.

## Education Employment Services

The Career Services Center, 230 Nebraska Union, offers a professional placement service to students and alumni who are seeking employment in education and related fields. In addition to providing on-campus interviews with select schools throughout the year, this office sponsors an annual Education Recruitment Day in the spring which offers students an opportunity to interview with hiring officials from many schools.

## Bachelor of Science in Education and Human Sciences: Elementary Education (minimum 120 hours)

### I. Achievement-Centered Education (ACE) (30-32 hours)

The goals of a general, liberal education are to promote the understanding of broad areas of knowledge and to develop attitudes, values, thought processes, and basic abilities expected from an educated person. All UNL students who are following the 2009-10 bulletin will be required to complete a minimum of 3 hours of approved course work in each of the 10 designated ACE Student Learning Outcome (SLO) areas which are described on page 17 of this bulletin. **It is highly recommended that students contact their adviser prior to registering for ACE classes** in order to insure that each of the class selections are in the best interest of the students' academic program.

#### Elementary Education Program Requirements

The following course requirements will either be included in or taken in addition to the 10 ACE requirements (**bold print**=ACE classes):

- In addition to taking any ACE 1 class, select one of the following: **CEHS 200; ENGL 101, 150, 151, 254**
- Select one of the following: **COMM 109, 209, 210; ALEC 102**
- **MATH 203; or MATH 104, 106, 107, or 108**
- Two science courses are required which must include any ACE 4 class and either a biology with a lab class or a physical science class with a lab.
- Any English class in ACE 5
- Select one of the following: **HIST 100, 101, 171, 201, 202**
- Select one of the following: **GEOG 140, 271, 272; POLS 100**

### II. Enhancement Course Work (10-16 hours)

Students must select one course from each group listed below. (Course credits selected from this section are **in addition** to other ACE/Program required courses.):

### 1. Social Science Courses:

HIST 201, 202, 241, 309, 351, 361; GEOG 140, 271, 272; POLS 100, 221; ECON 211, 450, 451

### 2. Mathematics Courses:

MATH 106 or 107; MATH 302, 304; STAT 218

### 3. Science Courses:

PHYS 262 (*pre or corequisite, PHYS 260 or 261 may be used to satisfy ACE 4 science requirement*); BIOS 295; NRES 108; ENTO 115 and 116

### 4. Literacy Courses:

ENGL 220, 254, 275, 322A, 322B, 354, 377; TEAC 413A, 438, 441

## III. Pre-Professional Education Requirements (21 hours)

Students **must** complete the following courses before applying to the Elementary Teacher Education Program:

EDPS 250 (3 hrs) **ACE 6**  
TEAC 297A (1 hr)  
TEAC 259 (3 hrs)

Students **may** complete the following courses prior to acceptance into the Elementary Teacher Education Program:

EDPS 362 **ACE 6** (3 hrs); TEAC 331 **ACE 8** (3 hrs); TEAC 330 **ACE 9** (3 hrs); TEAC 380 (2 hrs); CYAF 380 **ACE 6** (3 hrs)

## IV. Professional Education Requirements (59 hours)

Students must be accepted into the Elementary Teacher Education Program before enrolling in the following Professional Education classes.

The following courses are taken as a block with a practicum experience:

TEAC 351, 297B (2 hrs each); TEAC 308, MATH 300 (3 hrs each)

The following courses are taken as a block with a practicum experience:

TEAC 311, 313, 397A (3 hrs each)

The following courses may be taken any time in the program after admission to ETEP and before student teaching:

TEAC 320, 307, 315, SPED 401A, MATH 301 (3 hrs each); TEAC 395 (4 hrs)

**Elective:**

TEAC 213, 413A, 436, 438, 441, 446; EDPS 251

The following courses are taken only after the Literacy Block:

SPED 415/415A (4 hrs)

### Student Teaching:

TEAC 497A (7 hrs); TEAC 497Y, 497Z (1 hr each); TEAC 403A (3 hrs) (**ACE 10**)

# Bachelor of Science in Education: Secondary Education (minimum 125 hours)

## I. Achievement-Centered Education (ACE)

The goals of a general, liberal education are to promote the understanding of broad areas of knowledge and to develop attitudes, values, thought processes, and basic abilities expected from an educated person. All UNL students who are following the 2009-10 bulletin will be required to complete a minimum of 3 hours of approved course work in each of the 10 designated ACE Student Learning Outcome (SLO) areas which are described on page 17 of this bulletin. **It is highly recommended that students contact their adviser prior to registering for ACE classes** in order to insure that each of the class selections are in the best interest of the students' academic program.

## II. Additional ACE Course Work

Students need four additional ACE courses. One of the 14 total ACE courses must be an approved speech course: COMM 109, 205, 209, 210. At least two of the 14 ACE courses must be at the 300 or 400 level.

## III. Pre-Professional Education Requirements (16 hours)

Students **must** complete the following courses before applying to the Secondary Teacher Education Program:

EDPS 251 (3 hrs)  
EDPS 297 (1 hr)  
TEAC 331, 430, 431, 434, 437, or 496 (3 hrs) or approved transfer course  
Approved speech class (3 hrs)

Students **may** complete the following courses prior to acceptance into the Secondary Teacher Education Program:

TEAC 259 (Students in business education are not required to take TEAC 259) (3 hrs)  
TEAC 330 (3 hrs)

**NOTE:** Students in speech pathology and audiology take SLPA 488 in place of TEAC 330.

## IV. Teaching Endorsement Requirements

Secondary education endorsements (or majors) are divided into fields or single subjects. Students graduating from the College of Education and Human Sciences or working toward certification must complete **one** field endorsement or **two** subject endorsements and must take a methods course and student teach in **each** endorsement. A few supplemental endorsements are available that may enhance employment possibilities. Endorsements that require two subjects are noted with an asterisk in the "Endorsements" section. Students may contact the College Student Services Center, 105 Henzlik Hall, for additional information or an explanation of the requirements.

## V. Professional Education Requirements

**Professional Education** (28 hours): TEAC 397, 403, 451, 452, 3 hrs each; 497 10 hrs; 497Y, 497Z 1 hr each; EDPS 457 3 hrs; SPED 401B (434 for business education students) 3 hrs. Sections of 397, 403\*, 451, 452, and 497 are designated by endorsement area. Additional professional education course work, when required, will be noted with the endorsement courses listing.

Students must be accepted into the Secondary Teacher Education Program before enrolling in the Professional Education courses. Upon acceptance, course numbers and call numbers can be obtained from the appropriate subject matter adviser in the College Student Services Center.

\* *Industrial Technology Education and Business Education majors do not take TEAC 403.*

# Bachelor of Science in Education and Human Sciences: Non-Teaching Endorsement Programs (minimum 125 hours)

## I. Achievement-Centered Education (ACE)

All UNL students who are following the 2009-10 bulletin will be required to complete a minimum of 3 hours of approved course work in each of the 10 designated ACE Student Learning Outcome (SLO) areas which are described on page 17 of this bulletin. **It is highly recommended that students contact their adviser prior to registering for ACE classes** in order to insure that each of the class selections are in the best interest of the students' academic program.

## II. Program Areas

- A. Audiology
- B. Speech Pathology and Audiology

## Endorsements

Students graduating from the College of Education and Human Sciences or working towards certification must complete one field endorsement or two subject endorsements. Those that require a second endorsement are noted with an (\*) asterisk.

**Agricultural Education.** Consult the College of Agricultural Sciences and Natural Resources-Department of Agricultural Leadership, Education and Communication section within this catalog for endorsement requirements. A combined **agricultural education and biology** endorsement is also available.

**Art.** (Grades K-12) 55 hours: ARTP 140A, 140B, 141A, 141B, 143 2 hrs each; DRAW 201 3 hrs; SCLP 211 3 hrs; CERM 231 3 hrs; PRNT 241 3 hrs; PANT 251 3 hrs; PHOT 261 3 hrs; AHIS 101, 102 3 hrs each; select 6 hrs electives in art history; select 15 hrs art studio electives, at least 9 of which are at the 300/400 level.

**NOTE:** Students also take TEAC 306 3 hrs prior to the professional education sequence.

\***Art.** (Grades K-6) 28 hours: AHIS 101, 102 3 hrs each; ARTP 140A, 140B, 141A, 141B, 143 2 hrs each; SCLP 211 3 hrs; CERM 231 3 hrs; PRNT 241 3 hrs; PANT 251 3 hrs. As part of the professional education, students must complete TEAC 497B 3 hrs.

**NOTE:** Must accompany an elementary education endorsement.

\***Biology.** (Grades 7-12) 50 hours: BIOS 101/101L, 109, 206, 213/213L, 312/314, either 220/222 or 207 4 hrs each; BIOS 214 5 hrs; CHEM 109, 110, 251/253 4 hrs ea; GEOL 101 4 hrs or 105 3 hrs **and** 299 1 hr; PHYS 141 5 hrs.

## Business Education/Cooperative Education.

(Grades 7-12) 51-53 hours: TEAC 229, 323, 424, 425, 443, 444, JGEN 120 or 220 3 hrs each; COMM 286 or 386 or 486 3 hrs; ACCT 201, 202 3 hrs each; ECON 211, 212 3 hrs each; FINA 307 3 hrs; MRKT 341 3 hrs; MNGT 320 3 hrs; BLAW 371 3 hrs.

**NOTE:** SPED 434 3 hrs (professional education course) also counts within the endorsement and is taken in lieu of SPED 401B (mainstreaming requirement). Students need 1,000 hours paid business-related work experience **or** TEAC 297J for 0-2 hrs. TEAC 403 not required.

\***Chemistry.** (Grades 7-12) 47 hours: BIOC 321/321L 4 hrs; BIOS 101/101L 4 hrs; CHEM 109, 110, 221, 251/253 4 hrs ea, 421 3 hrs, 423 2 hrs, 471 or 481 4 hrs ea; METR 200 4 hrs; PHYS 141 or 211/221, 142 or 212/222 5 hrs ea.

**Early Care and Education.** (Birth-Age 5) Pre-Professional: (12 hrs) CYAF 160, TEAC 259, 330, 331, 3 hrs each. Professional: (49 hrs) CYAF 270 2 hrs, 160, 170, 271, 280, 374, 380, 383, 384, 385, 474, 490 3 hrs each; CYAF 270L, 271L, 374L, 385L 1 hr each; SPED 201, 303, 362 3 hrs each; SPED 497Y 1 hr. Student Teaching: CYAF 497A 12 hrs.

**Early Childhood Education—Inclusive.** (Birth-Grade 3) 76-77 hours: CYAF 270 2 hrs, 170, 271, 280, 374, 474 3 hr each, 270L, 271L, 374L 1 hr each, 497A 9 hrs; SLPA 251 3 hrs; SPED 201, 303, 362, 415 3 hrs each, 415A, 496Y 1 hr; TEAC 302 or ENGL 216A 3 hrs; TEAC 305 4 hrs or equivalent 3 hrs; TEAC 397D, 416A, 416B, 416D 3 hrs each, 497A 9 hrs, 403A, 497Y, 497Z 1 hr each.

\***Earth Science.** (Grades 7-12) 48 hours: GEOL 106, 109, 310, 340 3 hrs each, 101, 103, 210 4 hrs each; ASTR 103 3 hrs; BIOS 101/101L 4 hrs; CHEM 109 or 113 4 hrs; METR 200 4 hrs; SOIL 153 4 hrs; PHYS 141 5 hrs.

**Economics and History.** (Grades 7-12) 60 hours: ECON 211, 212, 215, 311, 312, 321 3 hrs each; 12 hrs of economic electives at the 300/400 level. HIST 120, 201, 202, 360 3 hrs each; 6 hrs from Groups A, B, and C. Group A: U.S. and Canadian History. Group B: European History. Group C: Latin American, Asian, Middle Eastern, and African History.

**NOTE:** See degree audit or academic adviser in CEHS Student Services Center for approved courses in each section. ECON 210 cannot be taken in lieu of ECON 211 and 212.

**Elementary Education.** (Grades K-6): Pre-Professional (21 hrs): TEAC 331 3 hrs; EDPS 250, 362 3 hrs each; CYAF 380, TEAC 297A 1 hr, 380 2 hrs, 259, 330 3 hrs each. Professional (50 hrs): TEAC 297B, 351 2 hrs each, 302, 307, 308, 311, 313, 315, 397A 3 hrs each, 305 4 hrs, 497A 9 hrs, 403A, 497Y, 497Z 1 hr each; SPED 401A 3 hrs; MATH 300, 301 3 hrs each. Plus 10-16 hrs of Enhancement Courses. May add Endorsements in art, early childhood, or English as a second language. Grades below C may not be applied to any part of this endorsement. All methods courses must have a C+ or above.

#### Enhancement Course Work Requirements:

(10-15 hrs) Students must select one course from each group listed below. (Course credits selected from this section are in addition to other general education courses.)

1. Social Science: HIST 201, 202, 241, 309, 351, 361; GEOG 140, 271, 272; POLS 100, 221; ECON 211, 450, 451
2. Mathematics: MATH 106, 107, 302, 304, 306, 309; STAT 218
3. Science: PHYS 262; NRES 108; BIOS 295; ENTO 115 and 116
4. Literacy: ENGL 220, 254, 275, 322A, 322B, 354, 377; TEAC 413A, 438, 441

Grades below C may not be applied to any part of this endorsement. All methods courses must have a C+ or above.

## Dual endorsement programs in Elementary Education

**1. Elementary Education–Early Childhood Education.** (Elementary Education Grades K-6, Early Childhood Education Birth-Grade 3). Students must complete all requirements for Elementary Education (K-6) with the following exceptions: CYAF 160 replaces EDPS 250; CYAF 270 & 270L 3 hr, TEAC 297A 1 hr; CYAF 374 & 374L 4 hrs replaces EDPS 362. Additional requirements: CYAF 380, 381/281 1-3 hrs, CYAF 372 or EDPS 251, CYAF 382, 474, 477 3 hrs each, 271 & 271L 4 hrs, 497A 9 hrs, and TEAC 497A 9 hrs, 403, 497Y, 497Z 1 hr each.

**2. Elementary Education and Mild/Moderate Disabilities.** (Grades K-6) 100-106 hours: **NOTE:** Students will take the General Education Requirements for the Elementary Education Program. Pre-Professional: (21 hrs) COMM 109 or 205 or 209 or 210 3 hrs; TEAC 331 3 hrs; EDPS 250, 362 3 hrs each; TEAC 380 2 hr, 297A 1 hr, 259, 330 3 hrs each. Professional Education: (67 hrs) TEAC 297B, 351 2 hrs, 302, 307, 308, 311, 313, 315, 397A 3 hrs each, 305 4 hrs, 497A 5 hrs, 403A, 497Z 1 hr each; SPED 201, 302, 303, 304, 310, 415, 480 3 hrs each, 397 2 hrs, 415A 1 hr, 497M 6 hrs.

**Elementary Education and Deaf or Hard of Hearing Education (pre-professional concentration).** (Grades K-6) Students earn certification in elementary education and a bachelors degree in education.

**Elementary Education:** Students must complete all requirements for elementary education (K-6) except for SPED 401A and Enhancements. See

Elementary Education program for a list of courses. The Deaf or Hard of Hearing Education (pre-professional) courses listed below, contribute to the concentration area for the Elementary Education program. To earn certification in Deaf or Hard of Hearing Education, students must continue with the Deaf or Hard of Hearing graduate program.

**Deaf or Hard of Hearing Education (pre-professional concentration):** 37-43 hours: SLPA 101, 102, 201, 202 4 hrs each; either SLPA 250 and 271 and 472 3 hrs each or 450/850 3 hrs; either SLPA 251 or 452 3 hrs; SPED 302, 303, 304, 400, and 472 3 hrs each.

**English.** (Grades 7-12) 45 hours: writing 9 hrs including ENGL 357; language, 9 hrs including TEAC 438/838; literature, 24 hrs including British literature 6 hrs; American literature 6 hrs; TEAC 439/839 3 hrs; nontraditional cultural perspectives literature 6 hrs, ENGL 377 3 hrs; approved electives 3 hrs. (21 hrs must be above 299, 9 hrs above 399.)

**NOTE:** See adviser in CEHS Student Services Center for list of appropriate courses.

**Family and Consumer Sciences.** (Grades 7-12) For a description of the program for teacher preparation in child, youth and family studies, see the “Department of Child, Youth and Family Studies” on page 270.

**French.** (Grades 7-12) Under review. Please see adviser.

**Geography and History.** (Grades 7-12) 61 hours: GEOG 140, 181, 271, 272, 447 3 hrs each, 155 4 hrs, 334 or 370 3 hrs; 9 hrs GEOG electives at the 300/400 level; HIST 120, 201, 202, 360 3 hrs each; 6 hrs from Groups A, B, and C. Group A: U.S. and Canadian History. Group B: European History. Group C: Latin American, Asian, Middle Eastern, and African History.

**NOTE:** See degree audit or academic adviser in CEHS Student Services Center for approved courses in each section.

**German.** (Grades 7-12) Under review. Please see adviser.

**\*History and a Non-Social Science Discipline.** (Grades 7-12) 36-38 hours history plus hours required from the non-social science discipline (see appropriate listing for other endorsement requirements): HIST 120, 201, 202, 360 3 hrs each; 6 hrs selected from Groups A, B, and C. Group A: U.S. and Canadian History. Group B: European History. Group C: Latin American, Asian, Middle Eastern, and African History. **NOTE:** See degree audit or academic adviser in CEHS Student Services Center for approved courses in each section. 6-7 hours from the following: ANTH 110, 212, 232, 242/L; ECON 211, 212; GEOG 140, 155, 334, 370; POLS 100, 232; PSYC 181, 288; SOCI 101, 200, 201, 217, 225.

**Industrial Technology Education (two plans):** Industrial Technology Education and Trade and Industrial Education are now under the direction of the College of Agricultural Sciences and Natural Resources. Please contact Dann Husmann or Tom Kraft in the Department of Agricultural

Leadership, Education and Communication (472-2807) for more information.

**Journalism and Mass Communications and English.** (Grades 7-12) 30 hours plus English endorsement: NEWS 201, 202, 304, 467 3 hrs each, 496 1 hr; JOUR 101, 203, 486, 487 3 hrs each, 142 2 hrs. Select one of the following: BRDC 226; ADVT 283; NEWS 303; JOUR 350 3 hrs.

**Language Arts.** (Grades 7-12) 71 hours: THEA 114, 201, 202 3 hrs each; NEWS 201, 202, 467 3 hrs each; COMM 200, 201, 212, 412 3 hrs each; JOUR 101 3 hrs, 142 2 hrs; TEAC 411, 438, 439, 441 3 hrs each; ENGL 357, 377 3 hrs each; approved language course 3 hrs; approved composition courses 6 hrs; approved British literature course 3 hrs; approved American literature course 3 hrs; approved non-traditional cultural perspectives course 3 hrs. (21 hrs must be above 299, 9 hrs above 399)

**Latin.** Under review. Please see adviser.

**Marketing Education and Cooperative Education.** (Grades 7-12) 57 hours: ACCT 201, 202 3 hrs each; ECON 211, 212, 215 3 hrs each; MNGT 320 3 hrs; BLAW 371 3 hrs; MRKT 341, 345, 346, 347 3 hrs each; select 3 hrs from MRKT 425, 443, 444, 458; select 3 hrs from MNGT 361, 464, 465; TEAC 323, 424, 425, 443, 444, JGEN 120 or 220 3 hrs each.

**Mathematics.** (Grades 7-12) 35 hours: MATH 106 and 107 5 hrs each; 208 4 hrs; 310, 314, 350, 407/807, 408/808 3 hrs each; 221 or 405 3 hrs; STAT 380 3 hrs.

**Middle Grades Education.** (Grades 4-9) Students are no longer being admitted into this program.

**Mild/Moderate Disabilities.** (Grades 7-12) 34 hrs: SPED 406A 1 hr, 201 or 400, 302, 303, 304, 310, 406, 407, 408, 480, 496 3 hrs each; SPED 405 or 436 or TEAC 441 3 hrs.

**NOTE:** Professional education requirements include: TEAC 331 3 hrs; EDPS 251 or 451 3 hrs; EDPS 297 1 hr; TEAC 259, 330 3 hrs each; EDPS 362 or 457 3 hrs; SPED 497M 11 hrs; SPED 497Z, 498 1 hr each.

**Mild/Moderate Disabilities (Grades 7-12) and Deaf or Hard of Hearing (pre-professional).** Students earn certification in mild/moderate disabilities and a bachelors degree in education. See Mild/Moderate Disabilities (Grades 7-12) program for a list of courses. To earn certification in Deaf or Hard of Hearing Education, students must continue with the Deaf or Hard of Hearing graduate program.

**Deaf or Hard of Hearing Education (pre-professional):** 25-31 hours: SLPA 101, 102, 201, 202 4 hrs each; either SLPA 250 and 271 and 472 3 hrs each or 450/850 3 hrs; either SLPA 452 or 251 3 hrs; SPED 472 3 hrs.

**Mild/Moderate Disabilities:** (Grades 7-12) 34 hrs: SPED 406A 1 hr, 201, 302, 303, 304, 310, 406, 407, 408, 480, 496 3 hrs each; SPED 405 or 436 or TEAC 441 3 hrs.

**NOTE:** Professional education requirements include: TEAC 331 3 hrs; EDPS 251 or 451 3 hrs; EDPS 297 1 hr; TEAC 330 or SLPA 488 3 hrs;

TEAC 259 3 hrs; EDPS 362 or 457 3 hrs; SPED 497M 11 hrs, 497Z, 498 1 hr each.

**Music.** For a description of the programs for teacher preparation in music, see the requirements for the bachelor of music education degree in the Hixson-Lied College of Fine and Performing Arts section within this catalog.

**Natural Science.** (Grades 7-12) 60 hours: ASTR 103 3 hrs; either PHYS 141 & 142 5 hrs each, or PHYS 211/221 and 212/222 5 hrs each; CHEM 109, 110 4 hrs each, 251 & 253 4 hrs; BIOS 109 4 hrs, 101 & 101L, 112 & 112L, 213 & 213L, 220/222, 312 & 314 4 hrs each; GEOL 101 or 103 or 160 4 hrs, and either GEOL 105 or 106 or 109 or 110 or 115 3 hrs; METR 200 4 hrs.

**Physical Science.** (Grades 7-12) 71 hours: MATH 106, 107 5 hrs each, 208 4 hrs; BIOS 101 & 101L 4 hrs, 220 3 hrs, 222 1 hr; ASTR 103, 204 3 hrs each, 224 1 hr; PHYS 211/221 and 212/222 and 213/223 5 hrs each; CHEM 109, 110, 251/253 4 hrs each; BIOC 321 & 321L 4 hrs; GEOL 101 or 103 or 160 4 hrs, and either 105 or 106 or 109 or 110 or 115 3 hrs; METR 200 4 hrs.

**\*Physics.** (Grades 7-12) 44 hours: PHYS 231, 311, 441 3 hrs ea, 211/221, 212/222, 213/223 5 hrs ea; ASTR 204/224 4 hrs; BIOS 101/101L 4 hrs; CHEM 109, 110 4 hrs ea; METR 200 4 hrs.

**Political Science and History.** (Grades 7-12) 60 hours: POLS 100, 104, 160, 221, 232 3 hrs each; 3 hrs from Groups A, B, and C and 6 hrs of political science electives at the 300/400 level. **Group A:** American Government, Politics, and Law. **Group B:** Foreign Comparative Government. **Group C:** International Relations. HIST 120, 201, 202, 360 3 hrs each; 6 hrs from Groups A, B, and C. **Group A:** U.S. and Canadian History. **Group B:** European History. **Group C:** Latin American, Asian, Middle Eastern, and African History.

**NOTE:** See degree audit or academic adviser in CEHS Student Services Center for approved courses in each section.

**\*Reading and Writing.** (Grades 7-12) 27 hrs: EDPS 457 or 854, SPED 406/806, TEAC 411A/811A, 438/838, 439/839, 441/841, ENGL 357 or 957B 3 hrs each. Select 6 hrs from TEAC 411/811B, 453T/853T, 454/854, 886, 951, 989, or SPED 405/805.

**Russian.** (Grades 7-12) Under review. Please see adviser.

**Social Science.** (Grades 7-12) 62-63 hours: HIST 120, 201, 202, 360 3 hrs each; 3 hrs selected from Groups A, B, and C. **Group A:** U.S. and Canadian History. **Group B:** European History. **Group C:** Latin American, Asian, Middle Eastern, and African History.

**NOTE:** See degree audit or academic adviser in CEHS Student Services Center for approved courses in each section. ANTH 110 and 3 hrs from ANTH 212, 232, 242 & 242L; ECON 211, 212 3 hrs; GEOG 140 3 hrs, 155 4 hrs and 334 or 370 3 hrs; POLS 100, 232 3 hrs; PSYC 181 4 hrs, 288 3 hrs; SOCI 101 and 3 hrs from SOCI 200, 201, 217, and 225.

**Spanish.** (Grades 7-12) 30-46 hours: Beginning and intermediate language courses SPAN 101, 102 5 hrs each, 201, 202 3 hrs each or equivalents; SPAN 203, 204, 303, 304, 319, 321, 331 3 hrs each; 6 hrs to be chosen from SPAN 305, 311, 312, 314, 315, 317, 398; SPAN 403 or 405 3 hrs each. Credit granted for study abroad.

**Speech and English.** (Grades 7-12) 33 hours plus English endorsement: COMM 109 or 209, 200, 201, 205, 210, 211 or 283, 212, 412, 220 or 400, 226 3 hrs each; ENGL 357 3 hrs or approved 400-level communications studies course.

**Speech-Language Pathologist.** (Grades P-12) 54-55 hours: SLPA 150, 250, 251, 271, 421, 441, 452/852, 454/854, 461/861, 472 3 hrs each, 455, 456, 464 4 hrs each; 397A, 461L/861L 1 hr each; SPED 400/800 or approved elective 3 hrs; EDPS 459/859 3 hrs; either BIOS 214 5 hrs or 213 3 hrs and 213L 1 hr. Completion of a masters degree in speech-language pathology is required for state licensure in speech-language pathology. Teacher certification requires additional courses in professional education.

**NOTE:** SLPA 488 is taken in lieu of TEAC 330 (pre-professional education requirement).

**Theatre and English.** (Grades 7-12) 37 hours plus English endorsement: THEA 112G, 114, 115, 201, 202, 204, 223, 255 3 hrs each, 285 or 286 1 hr, 335 or 336, 410, 418 3 hrs each, elective theatre course 3 hrs.

**NOTE:** See adviser in CEHS Student Services Center for list of appropriate courses.

### Supplemental Undergraduate Endorsements

To pursue a supplemental endorsement, students must either hold a valid teaching certificate or be admitted to a teacher education program.

**Coaching.** (Grades 7-12) 15 hours: ATHT 235 3 hrs; ATHC 279 and 494 3 hrs each; 6 hrs selected from ATHC 311, 312, 317, 318.

**Cooperative Education–Diversified Occupations.** (9 hours): TEAC 424 or 815 3 hrs; TEAC 425 or 825 3 hrs; SPED 434/834 3 hrs.

**NOTE:** Endorsement in business, marketing, or industrial technology required.

**English as a 2nd Language–Undergraduate.** (Grades K-12) 21 hrs: TEAC 213 and 438 3 hrs each; TEAC 441 or 411 or 411A or 411B 3 hrs; TEAC 413A, 413B, 413D, 497E 3 hrs each.

**English as a 2nd Language–Graduate.** (Grades K-12) 19 hrs: TEAC 438/838 or 813K 3 hrs, 841 or 811 or 811A or 811B 3 hrs, 813A, 813B, 813D 3 hrs each, 897E 1 hr; TEAC 813J or COMM 950 or 950B 3 hrs.

**High Ability Education.** (Grades K-12): Please contact John Berenthal at 472-5496. This program is offered jointly with the University of Nebraska at Kearney. For additional program information, please contact Dr. Joan Lewis at UNK at (308) 865-8613.

### Information Technology (undergraduate).

(Grades K-12) 17 hours: TEAC 323, 451L, 444 3 hrs each; TEAC 397L 1 hr; CSCE 101, 150 3 hrs each; CSCE 101L 1 hr.

**Severe/Multiple Disabilities–Autism.** (Grades P-12) 23 hours: Teaching Certificate in Special Education – Mild/Moderate Disabilities or equivalent; SPED 480/880, 809, 881, 882, 897P 3 hrs each, 810, 896P, 980, 981 2 hrs each.

**Vocational Special Needs.** (Grades 7-12) 15 hours: TEAC 434 3 hrs; SPED 436 3 hrs each; 6 hrs from SPED 201, 400.

### Graduate Level Teaching Endorsements

**Assessment Leadership.** (Grades P-12) 18 hours: TEAC 890, 893 3 hrs each; 991, 993 6 hrs each.

**Behaviorally Disordered.** (Grades P-6) 40 hours: SPED 800 (prereq), 802, 803, 804, 841, 896, 907B, 908, 942 3 hrs each, 897B 6 hrs, 897Z 1 hr; EDPS 850 3 hrs; EDUC 800 or SLPA 854 3 hrs.

**Behaviorally Disordered.** (Grades P-12) 40 hours: SPED 800 (prereq), 802, 803, 804, 841, 896, 907B, 908, 942 3 hrs each, 897B 6 hrs, 497Z 1 hr. Supporting courses 6 hrs: EDPS 850 or EDPS 851 or EDPS 869. Guided elective 3 hrs.

**Counselor, School Guidance.** (Grades K-6) 47 hours: (Candidates must be admitted into a masters degree program in educational psychology or, in the case of an already existing graduate degree, must be reviewed and meet the existing admission requirements. The candidate must have a valid teaching or special services certificate and two years teaching experience.) EDPS 850, 853, 859, 869 or 985, 965A, 984, 800, 866, 868, 870, 964, 974, 975 3 hrs each, 997A, 997B 4 hrs each.

**NOTE:** To add a 7-12 endorsement to a K-6 endorsement, a student must add EDPS 851 and an additional 997B at the 7-12 grade level.

**Counselor, School Guidance.** (Grades 7-12) 47 hours: (Candidates must be admitted into a masters degree program in educational psychology or, in the case of an already existing graduate degree, must be reviewed and meet the existing admission requirements. The candidate must have a valid teaching or special services certificate and two years of teaching experience.) EDPS 851, 853, 859, 869 or 985, 965A, 984, 800, 866, 868, 870, 964, 974, 975 3 hrs each, 997A, 997B 4 hrs each.

**NOTE:** To add a K-6 endorsement to a 7-12 endorsement, a student must add EDPS 850 and an additional 997B at the K-6 grade level.

**Deaf or Hard of Hearing/Subject.** (Grades P-12) 30-45 hours: Candidates must hold an initial certificate in Elementary Education, Middle Grades, or Special Education-Mild/Moderate Disabilities. Students without a Special Education certificate are required to take a four-course series in Special Education. **Proficiency requirements:** Demonstrated proficiency in American Sign Language; successful completion of SLPA 202 or minimum score on Sign Communication Proficiency Interview or EIPA or other approved measure.

**Prerequisites:** SPED 400/800, 302/802, 304/803, 313/804 3 hrs each; SLPA 251 3 hrs (15 hours). SPED 472/872, 873, 874, 875, 897D, 960 3 hrs each; and either SPED 896D 3 hrs or 896D 2 hrs and 896E 1 hr; SLPA 850, 884, 956 3 hrs each (30 hours).

**Early Childhood Education.** (Grade P-3) 30-31 hours: **Prerequisites:** Must hold a valid elementary education teaching endorsement or permission. Consult the College of Education and Human Sciences for advising. CYAF 961 or SPED 960 3 hrs; CYAF 897A, 972 3 hrs each; CYAF 874 or 876 3 hrs; CYAF 877 or ALEC 802 or 807 3 hrs; CYAF 973 or PSYC 889 3 hrs; CYAF 865 or 896 3 hrs; CYAF 970 or 971 or SPED 860 3 hrs; CYAF 974 or EDPS 850 or TEAC 817 3 hrs. Select one course from the following: SPED 804, 860, 862, 863, or 960 3 hrs; or SLPA 862A and 862J 2 hrs ea.

**Early Childhood Special Education.** (Birth thru grade 3) minimum 27 graduate hours: **Prerequisites:** Teaching Certificate Endorsement in Elementary Education (K-6) or Early Childhood Education (P-3) or Unified Early Childhood (Birth thru grade 3); SPED 800, 802, 804, 815 12 hrs. **Required completion of (or equivalent):** CYAF 970, SPED 890 (or SLPA 251), SPED 860, 861, 862, 863, 882, 960 and 897Q 3 hrs each.

**Information Technology (graduate).** (Grades K-12) 19 hours: TEAC 851L, 860, 882A, 882B, 882D, 882J 3 hrs each; TEAC 894L 1 hr.

**Library Media Specialist.** (Grades K-12): This program is offered jointly with the University of Nebraska at Omaha. Please contact Dr. Becky Pasco at UNO at (402) 554-2119 for advising.

**Pre-School Disabilities.** (Birth thru K) minimum 30 hours: **Prerequisites:** Teaching Certificate Endorsement for Special Education or Speech Pathology; SPED 800, 802, 804 9 hrs. **Required completion of (or equivalent):** SPED 860, 861, 862, 863, 882, 960, 890 or (SLPA 251) 3 hrs each and SPED 897Q 6 hrs and CYAF 970 3 hrs.

**NOTE:** There is a masters degree program available that includes an initial teaching certificate with this endorsement focus for students with undergraduate degrees outside education. Contact Special Education and Communication Disorders at 472-2141.

**Reading Specialist.** (Grades P-12) 30 hours: Candidates must hold a valid teaching credential and have at least one year teaching experience. TEAC 802, 811, 838, 839, 841, TEAC/SPED 886, 886B 3 hrs each; TEAC 893 (Professional Development for Literacy Coaches version only) 3 hrs; select 6-8 hrs from the following: ENGL 957B 6 hrs, or TEAC 817, 854, 890, 990, 921, 950, 951, 952, 953 3 hrs; or EDPS 989 3 hrs; or SPED 805 3 hrs paralleled with 805A 1 hr or TEAC/SPED 806 3 hrs paralleled with 806A 1 hr; SPED 815 3 hrs paralleled with 815A 1 hr.

**Visual Impairment.** (Grades P-12) 33 hours: **Prerequisites:** Admittance into VI program, hold or earn concurrently subject or field endorsement. If your endorsement is not in special education, the following core classes must be completed: SPED 800 and 803 3 hrs each. **Requirements:** SPED 846, 847, 849, 851, 852, 853, 882 3 hrs each; 852A 1 hr;

852B 2 hrs; 897V 3 hrs; guided electives in special education 6 hrs selected with adviser; braille proficiency exam.

## Special Services Endorsements

**School Psychologist.** (Grades P-12) 76-85 hours: Candidate must hold a masters degree in educational or clinical psychology, education, or a related field. This is an educational specialist degree program. EDPS 859 or equivalent, 870 or equivalent, 868 or equivalent, 850 or 851, 854, 860, 863, 867, 869, 949, 952, 954 3 hrs each; 950, 951 4 hrs each; 996A 6 hrs; 958A or 959 7 hrs; 957A, 958B 8 hrs each; EDUC 800 or equivalent and 900B 3 hrs each; SPED 800, 802 or equivalent 3 hrs each.

**School Transition Specialist.** (Grades 7-12) 18 hours: SPED 800 or 834, 807, 808, 835 or 836, 837 or 896, 908 3 hrs each.

## Administrative and Supervisory Standard Certificates

### Standard Certificate Requirements

The completion of a masters degree or 36 hours of a specialist program and the fulfillment of the State Department of Education Guidelines for Certification are required to obtain the **Standard Administrative and Supervisory Certificate**. A minimum of 9 hours must be taken at the University of Nebraska-Lincoln. All individuals seeking certification for an administrative certificate must hold or qualify for a **Standard Teaching Certificate**. The following endorsements on the certificate are available through the College of Education and Human Sciences. Candidates must have on file a program approved by the Department of Educational Administration.

**Assessment Leadership.** Refer to Graduate Level Teaching Endorsements for list of courses.

**Curriculum Supervisor.** (Grades P-12) 36 hours: EDAD 811, 830, 851, 903, 948; TEAC 800, 801, 888 3 hrs; Select one course from EDAD 833, 837, or 852 3 hrs; Select two courses from TEAC 846A, 846B, 848, 944, 944A, 944B, 944D, 944E 3 hrs each (6 total); Select one course from TEAC 830, 831, 832, 834, 840, 840A, 840B, 840D, 861, 902 3 hrs.

**NOTE:** Students must be admitted to both educational administration and curriculum and instruction and meet exit requirements for both departments.

**Principal, Elementary.** (Grades P-8) 36 hours: **a** EDAD 811, 830, 833, 837, 851, 852, 903, 981 3 hrs each; **b** TEAC 801 or 848 or 944 3 hrs, and TEAC 800 or 946 or 948 3 hrs; **c** approved College of Education and Human Sciences course other than educational administration or curriculum and instruction 3 hrs; **d** approved elective 3 hrs. Must complete satisfactorily a Professional Portfolio. Must either hold teaching endorsement valid for elementary school grades or earn additional 9 hrs pertaining to elementary school level.

**NOTE:** Applicant must have met Nebraska Department of Education requirements for basic skills, human relations training, special education, and two years of teaching experience.

**Principal, Middle Grades.** (Grades 4-9) 36 hours: **a** EDAD 811, 830, 833, 837, 851, 852, 903, 981 3 hrs each; **b** TEAC 801 or 848 or 944 3 hrs, and TEAC 800 or 946 or 948 3 hrs; **c** approved College of Education and Human Sciences course other than educational administration or curriculum and instruction 3 hrs; **d** approved elective 3 hrs. Must complete satisfactorily a Professional Portfolio. Must either hold teaching endorsement valid for middle school grades or earn additional 9 hrs pertaining to middle school level.

**NOTE:** Applicant must have met Nebraska Department of Education requirements for basic skills, human relations training, special education, and two years of teaching experience.

**Principal, Secondary.** (Grades 7-12) 36 hours: **a** EDAD 811, 830, 833, 837, 851, 852, 903, 981 3 hrs each; **b** TEAC 801 or 848 or 944 3 hrs, and TEAC 800 or 946 or 948 3 hrs; **c** approved College of Education and Human Sciences course other than educational administration or curriculum and instruction 3 hrs; **d** approved elective 3 hrs. Must complete satisfactorily a Professional Portfolio. Must either hold teaching endorsement valid for secondary school grades or earn additional 9 hrs pertaining to secondary school level.

**NOTE:** Applicant must have met Nebraska Department of Education requirements for basic skills, human relations training, special education, and two years of teaching experience.

### Supervisor of Special Education Programs.

(Grades P-12) 36 hours: EDAD 800 6 hrs, 811, 981 3 hrs each, EDAD approved electives 6 hrs; EDAD/SPED 857, 858 3 hrs each; 12 hrs approved graduate courses in special education, 6 of which are outside of person's endorsement area, taken within past 6 years.

**NOTE:** Special education endorsement required and 2 years of successful teaching experience.

## Administrative and Supervisory Professional Certificates

The completion of the specialist program and the fulfillment of the State Department of Education Guidelines for Certification are required to obtain the **Professional Administrative and Supervisory Certificate**. All individuals seeking certification for an administrative certificate must hold or qualify for a **Standard Teaching Certificate**. The following endorsements on this certificate are available through the College of Education and Human Sciences. Advisement for all specialist programs is through the Department of Educational Administration.

**Superintendent.** (Grades P-12): 66 hours: Prereq: Must have a valid regular teaching certificate or an administrative and supervisory certificate (principal, curriculum supervisor) and at least two years of teaching experience. **a** Educational Administration 42 hrs: EDAD 801, 811, 830, 833, 835, 837, 851, 852, 901, 903, 904, 905, 981, 998 3 hrs each; **b** Teaching Learning and Teacher Education 6 hrs: either TEAC 801 or 848 or 944, and either Teach 800 or 946 or 948; **c** supporting area other than Educational Administration or

Teaching Learning and Teacher Education 3 hrs;  
d) approved electives 15 hrs.

## Non-Endorsement Programs

Non-teaching degree programs in administrative resource management, technical education and audiology are available.

## Technical Education

This non-certified program is intended primarily for individuals with an associate degree who are teaching or who plan to teach in a technical industrial area at the post-secondary level and/or those intending to enter into business or industry.

**Program Requirements.** (45+ hours: See adviser for specific courses. Major Area (51 hrs): Associate degree from a technical post-secondary school in one specialized field (42 hrs); TEAC 259 3 hrs; MNGT 320 or 360 or 361 3 hrs; and 3 hrs of elective from either the Industrial Technology of Business Education/Cooperative Education Endorsement programs. Professional Education (31 hrs): TEAC 331 or 430 or 431 or 434 or 437 or 496 3 hrs, 451K, 452M, 424 3 hrs each, 397M 1 hr, 491 6 hrs; SPED 434 3 hrs; EDPS 451 and either 454 or 457 3 hrs each; ALEC 308 3 hrs.

## Audiology Option

This option is intended for undergraduate students who wish to major in the area of Communication Disorders with an emphasis in audiology and who ultimately expect to enter graduate school and obtain a masters degree in audiology. It is assumed that these students will NOT wish to be certified to be in the classroom.

It is highly recommended that students pursue the bachelor of science in education: Non-Teaching Endorsement Program (BSEd). The following curriculum is based upon the requirements for that degree.

In addition to the education general requirements, students must complete the following:

SLPA 101, 150, 250, 251, 271 (3 hrs ea), 397A (1 hr), 455, 456 (4 hrs ea), 421, 472 (3 hrs ea); PSYC 463, 465 (3 hrs ea)

One speech disorders course (SLPA 464 recommended) (3 hrs)

One language disorders course (SLPA 461 recommended) (3 hrs)

**NOTE:** Students in audiology need the following specific courses which also fulfill general education requirements: BIOS 101/101L, 213/213L; MATH 102, 104 or 106; PHYS 141; PSYC 181.

## Minors in Education

### African American Studies Minor

Students in teacher preparation may obtain a minor in African American Studies by satisfactorily completing a minimum of 18 credit hours of work as prescribed by the adviser for the African American Studies minor in the College of Arts and Sciences. Students must file a C-D-M-A (College-Degree-Major-Adviser) form with the College Student Services Center prior to filing for graduation.

### Coaching Minor

Students in the College of Education and Human Sciences who are not seeking teaching certification may obtain a coaching minor by satisfactorily completing the coaching supplemental endorsement. Students must file C-D-M-A (College-Degree-Major-Adviser) form with the College Student Services Center prior to filing for graduation.

### Education Minor

• **18 hours:** TEAC 331 or equivalent and 330 3 hrs ea; EDPS 250 or 251 and 362 or 457 3 hrs ea; SPED 201 3 hrs; CYAF 380 or approved elective from CYAF, EDPS, NUTR, SPED, or TEAC 3 hrs.

## Area of Specialization

**Multicultural Education.** It is possible to obtain multicultural education specialization along with a teaching endorsement. Basic requirements are as follows:

TEAC 330, 433, 434, 436, and approved elective; 12 hrs selected from ANTH 212, 242, 351, 482; ENGL 220, 244B, 245B, 245D, 245J, 445; HIST 357; POLS 238; SOCI 217, 218, 481; COMM 211 or 380. An approved field/practicum experience outside of normal class assignments (3 cr); student teaching in a multicultural setting; and demonstrated language proficiency through course work or testing in one of the following languages: Spanish, Vietnamese, Sioux (Lakota/Dakota), Portuguese, Chinese, Japanese, German, Czech, Russian or French.

For more information, contact Teaching, Learning and Teacher Education.

## Graduate Work in Education

Majors in education leading to the indicated graduate degrees are:

### Education (Doctoral)

Administration, Curriculum, and Instruction—EdD, PhD  
Community and Human Resources—EdD, PhD  
Psychological and Cultural Studies—PhD

### Education (Masters and Specialists)

Curriculum and Instruction—MA, MEd, MST, EdS  
Educational Administration—MA, MEd  
Educational Psychology—MA, EdS  
Health and Human Performance—MEd, MPE, EdS  
Special Education—MA, MEd  
Special Education and Communication Disorders—EdS  
Speech-Language Pathology and Audiology—MS, EdS

In addition to the above degrees, work leading to a Certificate of Specialization in Administration and Supervision is offered in the Department of Educational Administration. Courses of study provide for specialization in administration and supervision of the central school office, secondary and elementary schools, curriculum, instruction, community college, media centers, special education, and the area of speech pathology and audiology.

For information on graduate work in education, consult the Graduate Bulletin and the Web site, [tc.unl.edu/grad](http://tc.unl.edu/grad).

**Seniors in this University** who have obtained in advance the approval of the Dean of Graduate Studies may receive up to 12 hours credit for graduate courses taken in addition to the courses necessary to complete their undergraduate work, provided that such credits are earned within the calendar year prior to receipt of the bachelors degree. (For procedures, inquire at the Office of Graduate Studies, 301 Canfield Administration Building.) Course work taken prior to receipt of the bachelors may not always be accepted for transfer to other institutions as graduate work.

Seniors at UNL needing not more than 9 hours of undergraduate credit to complete the bachelors degree and wishing to register for graduate credit may be granted admission to Graduate Studies on a provisional basis subject to receiving their baccalaureate within one calendar year. They must file applications to Graduate Studies and, if admitted, their graduate registrations may count as residence in the Graduate College.

## Courses of Instruction in Education

**Prerequisites.** In addition to the specific prerequisites of each course, the general prerequisite for all courses in the 400 series consists of not fewer than 12 hours of undergraduate credit in education, including 3 hours of educational psychology and 3 hours of educational methods.

### Workshop Seminars in Education

**490/890, 493/893, 990 or 993. Workshop Seminar (1-12 cr)**  
Opportunity to learn and to put into practice the principles and techniques of developing instructional aids such as courses of study, resource units, handbooks, and motion picture guides.

## Teaching, Learning and Teacher Education (TEAC)

**Chair:** Professor Thomas M. McGowan

**Professors:** Andrews, Bonnstetter, Brooks, Fowler, Garcia, Harnisch, Hostetler, Moeller, O'Hanlon, Walter

**Associate Professors:** Heaton, M. Latta, McIntyre, Sarroub, Steckelberg, Swidler, Wandzilak, Wunder

**Assistant Professors:** Chan, Ding, Hamann, Raible, Reeves, Trainin, Wilson

**Assistant Professors of Practice:** Lopez, Phillips

**Senior Lecturer:** Fisher

**Lecturers:** Brown, Detlefsen, Doxtator, Engen-Wedin, Hille, B. Latta

### 101. Mechanical Drafting (ALEC 101) (3 cr) Lec, lab.

Develop expertise in the use of drafting equipment, geometric construction, orthographic projections, dimensioning, and the application of ANSI standards.

### 102. Architectural Drafting (ALEC 122) (3 cr) Lec 3. Prereq: TEAC/ALEC 101.

Basic skills in the construction of architectural drawings, plot plans, elevation view, wall and floor sections, and roof construction. Architectural modeling.

**103. Computer-Aided Drafting** (ALEC 103) (3 cr) Lec, lab. Prereq: TEAC 102/ALEC 122.  
Applying computer commands to create two-dimensional engineering and architectural drawings.

**104. Wood Technology** (ALEC 104) (3 cr) Lec 3, lab 3.  
Basic problem solving and inquiry techniques appropriate to the wood working industry. Tools, materials and processes using natural and synthetic industrial materials.

**109. Industrial Metals and Plastics Materials Processing** (ALEC 109) (3 cr) Lec, lab.  
Forming, molding, separating and fabricating of industrial materials.

**197. Professional Practicum Experiences** (1-4 cr, max 4) *An accompanying seminar is included in which the professional role of the teacher is discussed.*  
Guided participation in schools and/or selected agencies offering programs for children/youth.

**Q. Middle Level**

[ES] **201. Electricity/Electronics** (ALEC 201) (3 cr) Lec 3.  
Introduction to electricity/electronics and its application to industry. AC and DC circuit design, construction, and analysis.

**203. Automotive Technology** (ALEC 203) (3 cr) Lec, lab.  
Automotive technology and the equipment related to automotive repairs. The design, theory, and operation of automotive systems through laboratory activities.

**204. Machine Tool Technology** (ALEC 204) (3 cr) Lec, lab. Prereq: TEAC/ALEC 109.  
Basic machine shop practices involving hand tools, precision measuring tools, bench work, layout, engine lathe, milling machine, surface grinders, and pedestal grinders.

**205. Welding Technology** (ALEC 205) (3 cr) Lec, lab.  
Basic knowledge and skill in both oxygen-acetylene welding and cutting, and electrical arc welding.

**210. Introduction to Industrial Education** (1 cr)  
Certification, employment potential, terminology, publications, resources, and introduction to the trends, philosophies, methods, and approaches to contemporary industrial education programs.

**213. Communicating Across Cultures in the Classroom** (3 cr) Lec 3. *TEAC 213 is a required, introductory, pre-professional course for teaching endorsement in English as a Second Language.*  
Cross-cultural communication in educational settings through the development, analysis, and evaluation of varied pedagogical approaches and strategies for tutoring ESL students in the K to 12th grade setting.

**229. Career and Technical Education: Applications Software** (3 cr)  
Development of strategies for using various application software packages in Career and Technical Education classrooms.

**242. Construction Technology** (ALEC 242) (3 cr) Lec, lab. Prereq: TEAC/ALEC 104.  
Classifications, properties and uses of common construction materials and building practices. Construction of a residential dwelling from plot plan through trim and finish work.

**243. Production Processes of the Wood Industry** (ALEC 243) (3 cr) Lec, lab. Prereq: TEAC/ALEC 104.  
Theory and practice of industrial processing of wood and synthetic materials. Structure and management of manufacturing industries.

[ES][IS] **246. Modern Industries** (ALEC 246) (3 cr) Lec 3.  
Survey of the industrial enterprise. Manufacturing and distribution of goods. Overview of the world of work.

**259. Instructional Technology** (3 cr) Lec 3.  
Development of strategies for using technology to support K-12 classroom instruction. Electronic portfolios, Internet resources, applications software, and authoring programs.

**297. Professional Practicum Experiences II** (EDPS, NUTR, SPED 297) (1-4 cr, max 12) *An accompanying seminar is included where the professional role of the teacher is discussed.*  
Guided participation/observation in schools/agencies offering programs for children/youth.

- A. **Elementary** (1-4 cr, max 4) Parallel EDPS 250.
- B. **Elementary** (1-4 cr, max 4) Parallel TEAC 351.

- I. **Secondary Art** (1-4 cr, max 4)
- J. **Secondary Business Education** (1-4 cr, max 4)
- M. **Secondary Industrial Education** (1-4 cr, max 4)
- N. **Secondary Language Arts** (1-4 cr, max 4)
- O. **Secondary Marketing Education** (1-4 cr, max 4)
- P. **Secondary Mathematics** (1-4 cr, max 4)
- Q. **Middle Level** (1-4 cr, max 4)
- R. **Secondary Modern Languages** (1-4 cr, max 4)
- V. **Secondary Science** (1-4 cr, max 4)
- W. **Secondary Social Science** (1-4 cr, max 4)

Role, trends, content, and materials of science in childhood education. Development of science experiences for use with children.

**323. Career and Technical Education: Multimedia Applications** (3 cr)  
Integrating instructional multi-media applications into Career and Technical Education courses.

(ACE 9) [ES][IS] **330. Multicultural Education** (ETHN 330) (3 cr) Prereq: Sophomore standing.

Role of minority group status in American society. Ethnic minority group cultures, the existence of subcultures within the mainstream of society, women in the social setting, and their relationship to the American education process. Analytic methods of study.

[IS] **331. School and Society** (3 cr) Lec 3. Prereq: Sophomore standing.  
Questions of educational purpose and the complex relationship between school and society. Brings disciplinary resources to bear for developing interpretive, normative, and critical perspectives on education, inside and outside of schools.

**340. Advanced Machine Woodworking** (ALEC 340) (3 cr) Lec, lab. Prereq: TEAC/ALEC 243. *TEAC/ALEC 340 is a continuation of TEAC/ALEC 243.*  
Machine woodworking on a major individual project. Wood finishing and maintenance of hand and power tools.

**346. Advanced Modern Industries** (ALEC 346) (3 cr) Lec, lab. Prereq: TEAC/ALEC 101, 204, 210, and 246.  
Advanced industrial technologies. Computer-numerical controlled machining, computer-aided manufacturing, integration of computer-aided drafting, robot programming, and laser applications.

**349. Seminar in Middle Level Education** (1 cr, max 3) Prereq: Permission.  
Active involvement with the philosophy, duties and demands of middle level education. Discussions and readings relating to the professional role of middle level educators in a seminar setting.

[IS] **351. The Learner Centered Classroom** (2 cr) Lec 2. Prereq: Admission to the Elementary Teacher Education Program or Special Education/Elementary Education or Early Childhood/Elementary Education; parallel TEAC 297B, TEAC 308, and MATH 300.

Organizing the learning environment in a culturally and socially responsive classroom. Theory and practice of creating a cooperative community that fosters both social and academic development. Theoretical perspectives are linked to actual classroom experience.

**380. Health and Wellness in the Elementary Classroom** (2 cr) Lec.  
The integration of elementary subjects through movement activities and the understanding of healthy concepts. Social skills, health, and mental revitalization for improved academic performance.

**390. Industrial Experience** (ALEC 390) (1-6 cr, max 6) Fld. Prereq: Permission.  
Occupational experience or supervised occupational experience in conjunction with directed observation to meet vocational industrial teacher certification requirements.

**397. Professional Practicum Experience III** (EDPS, SPED 397) (1-10 cr, max 10) Prereq: Admission to Teacher Education Program. Guided observations and/or clinical experiences in schools and/or agencies offering programs for children and/or youth.

A. **Elementary Level** (1-10 cr) *An accompanying seminar is included where the professional role of the teacher is discussed.*

D. **Unified Primary K-3** (EDPS, SPED 397D) (1-10 cr)

I. **Secondary Art** (1-10 cr)

J. **Secondary Business Education** (1-10 cr)

L. **Information Technology** (1-10 cr)

M. **Secondary Industrial Education** (1-10 cr)

N. **Secondary Language Arts** (1-10 cr)

O. **Secondary Marketing Education** (1-10 cr)

P. **Secondary Mathematics** (1-10 cr)

Q. **Middle Level** (1-10 cr) *An accompanying seminar is included where the professional role of the teacher is discussed.*

R. **Secondary Modern Languages** (1-10 cr)

S. **Secondary Science** (1-10 cr)

W. **Secondary Social Science** (1-10 cr)

**399. Independent Study** (1-6 cr, max 3 per sem) Prereq: Prior arrangement with and permission of individual faculty member. Special research project or reading program under the direction of a staff member in the department.

**402/802. Contemporary Children's Literature: Principles and Practices** (3 cr) Prereq: TEAC 302 and successful completion of student teaching or permission.

Contemporary literature for children, all forms and genres; development of meaningful and creative learning activities for children; professional readings and research related to children's literature.

**403. Student Teaching Seminar** (1-2 cr) Parallel: Student teaching (TEAC 497).

Analysis of the school programs with attention to: teacher certification, teacher and student rights and responsibilities, proper conduct of teachers, selected legal aspects of education, methods of communicating with parents and community members, and current issues which impact education.

- A. Elementary (K-6) (1-2 cr)
- B. Elementary Art (1-2 cr)
- N. Secondary Language Arts (1-2 cr)
- P. Secondary Math (1-2 cr)
- Q. Middle School (1-2 cr)
- R. Secondary Modern Language (1-2 cr)
- V. Secondary Science (1-2 cr)
- W. Secondary Social Science (1-2 cr)

**406/806. Improvement of Instruction in Elementary School Art** (3 cr) Prereq: 12 hrs education including TEAC 306 or equivalent; teaching experience or student teaching.

Techniques, plans, and procedures for improving instruction in elementary school art. Current practices, issues, and trends; evaluation of instructional materials.

**408/808. Improvement of Instruction in Elementary School Mathematics** (3 cr) Lec 3. Prereq: TEAC 308 or equivalent.

Techniques, plans, and procedures for improving instruction in elementary school arithmetic. Analysis of current instructional and supervisory practices. Evaluation of research and instructional materials.

**411/811. Reading Processes and Practices** (3 cr)

Overview of reading processes and programs with attention to strategies for comprehension and word identification, approaches, and materials.

- A. Teaching Reading (3 cr)
- B. Special Topics in Reading (1-6 cr)

**413/813. Studies in Teaching English as a Second Language** (1-15 cr, max 15)

Preparation for teaching K-12 learners whose language of nurture is not English.

- A. ESL: Acquisition (1-3 cr)
- B. ESL: Teaching and Curriculum (1-3 cr)
- D. ESL: Assessment (1-3 cr)
- E. Special Topics in Teaching ESL (1-6 cr)

**413M/813M. Teaching English Language Learners (ELLs) in Content Areas** (3 cr) Lec 3. TEAC 413M/813M is required for English language Learner (ELL) certification.

Theory and pedagogy in the teaching of English Language Learners (ELLs) in course content areas at all levels of K-12 education. Identify and design linguistically and culturally responsive instruction for English learners in the disciplines (e.g. language arts, science, mathematics, social sciences).

**[IS] 416/816. Inclusive Early Childhood Methods** (3 cr, max 9) Prereq: Admission to the Inclusive Early Childhood Teacher Education Program; CYAF 270, 270L, 374, and 374L. The creation and practice of developmentally appropriate instruction in curricular areas for K to 3rd grades. Role of the teacher and/or facilitator in relationship to the primary curriculum and learning environment.

- A. Literacy Methods for the Primary Student: K to 3rd (3 cr) Prereq: Parallel TEAC 397D.
- B. Social Studies and Science Methods for the Primary Student: K to 3rd (3 cr) Prereq: Parallel TEAC 397D.
- D. Mathematics Methods for the Primary Student: K to 3rd (3 cr) Prereq: Parallel MATH 200.

**418/818. Teaching Writing in the Elementary School** (3 cr)

Learning and teaching of writing with consideration given to developmental factors of children and adolescents.

**420/820. Teaching Foreign Language in the Elementary School** (3 cr) Theory, research and practice of most recent foreign language models and strategies.

**[IS] 424. Foundations of Career and Technical Education** (1-3 cr)

Scope and structure of career and technical education within the educational system. Teacher's role and responsibilities in dealing with legislative mandates in the planning, management, and evaluation of a local program.

**425/825. Coordination in Occupational Training Programs** (EDAD \*825) (1-3 cr)

Foundation and scope of current and projected vocational cooperative education programs and general education work experience. Coordination techniques, selection and placement, instructional procedures, youth leadership activities, organization and administration, and evaluation of cooperative occupational education.

**429/829. Instructional Communication** (COMM 427/827) (3 cr)

Prereq: Junior/senior standing; College of Education and Human Sciences major; COMM 200, 201; or permission. For course description, see COMM 427/827.

**[IS] 430/830. Introduction to Philosophy of Education** (3 cr)

*Open to advanced undergraduates and graduate students.*

Fundamental ideas and skills that students can use to begin to form personal philosophical perspectives on education that can be justified intellectually, practically, and ethically. Using case studies of realistic school situations and the theoretical work of a range of writers in education, students explore conceptions of teaching, learning, curriculum, and the relationship between school and society.

**431/831. Studies in the Foundations of Education** (3 cr each, max 12)

Social and cultural analyses of curriculum, teaching, and education policy from disciplinary perspectives.

- A. The Anthropology of Education (3 cr)
- B. The History of Education (3 cr)
- E. The Sociology of Education (3 cr)
- J. Special Topics (3 cr)

**432/832. Higher Education in America** (3 cr) Prereq: 12 hrs education.

History and development of America's colleges and universities and recent trends and problems in higher education.

**[IS] 434/834. Ethics and Education** (3 cr) *Open to advanced undergraduates and graduate students.*

Basic issues in ethics and education. Using theoretical material and case studies, students consider such ideas and issues as the nature of moral judgment, equality, justice, caring, and respect for persons, and discuss how educators might respond in ethically justifiable ways to difficult situations they may encounter.

**436/836. Latin American Education** (3 cr) Prereq: 12 hours education, social sciences, or Latin American Studies; or permission.

Survey of contemporary practices and problems in Latin American education, with special emphasis on the role of education in the national development.

**[IS] 437. Democracy and Education** (3 cr)

Democracy and how educational institutions and practices might facilitate or hinder democratic process and aims. The fact of cultural and moral pluralism in the United States, and to the educational responses to pluralism that are possible and appropriate in a polity that aims to be democratic. A range of stances on these issues.

**438/838. Linguistics for the Classroom School Teacher** (3 cr)

Prereq: Admission to the Teacher Education Program. Analysis of various aspects of linguistic study including dialects, usage, modern grammar, semantics, lexicography, etc., and their application in the K-12 school English classroom. Investigation and clarification of language concepts and the development of teaching materials that can be used in the classroom.

**439/839. Literature for Adolescents** (3 cr) Prereq: Admission to a Teacher Education Program.

Wide range of young adult literature available for use in schools. Critical and rhetorical tools for responding to a variety of literary texts and techniques for eliciting a wider range of responses to literature; consideration for readers aged 11-16.

**441/841. Content Area Reading, Grades 4-12** (3 cr)

Simultaneous teaching of academic content and functional teaching of reading in the content areas; assessment of comprehension, vocabulary/concept attainment; analyses of text; improvement of content area learning through reading/writing development.

**443. Career and Technical Education: Curriculum Issues** (3 cr)

Curriculum issues in Career and Technical Education courses using instructional technology. Subject integration, application of standards, use of Web-based resources and resource management.

**444. Career and Technical Education: Technology Issues** (3 cr)

Technology issues and the impact on society of access, privacy, confidentiality, ethics and emerging technologies; professional attitude and responsibility in using technology.

**445. Managing Industrial Education Laboratory** (3 cr) Prereq: TEAC 318.

Planning, organization, and instructional management of industrial education facilities with emphasis on developing a proactive safety program.

**446. The Middle Level Program** (3 cr)

Culminating professional course in a program for the preparation of middle level educators. Best practices in middle level education; history and philosophy of middle level education; interdisciplinary team planning; and teacher-based advising.

**447. Middle Level Teacher-Based Advising** (2 cr)

Reading, discussion and research of program designs, content and pedagogies for teacher-based advising for transcent students. Experimental programs and methods for improving student continuous progress and career exploration.

**449. Teaching the Transcent Student** (2 cr)

Knowledge of the instructional methodology which most accurately supports the learning of the middle level student. Review of the recognized theories and plans for instructing the 10-14 year old student forms the basis for this undergraduate, core middle level teacher education course.

(ACE 5, 7) [ES][IS] **450/850. American Cultural Perspectives through Popular Music and Guitar** (MUED 450/850; MUNM 450) (3 cr)

For course description, see MUED 450/850.

**451/851. Learning and Teaching Principles and Practices**

(3-4 cr) Prereq: Admission to the Teacher Education Program; completion of 80 percent of subject-area course work with a 2.5 GPA or better.

Theoretical issues in the area of teaching and learning as applied to the individual disciplines.

**I. Secondary Art** Prereq: As listed above and TEAC 306 or 406/806.

Investigates topics/issues impacting the teaching of art, including the theory and practice of discipline-based art education. Planning and incorporation of innovative approaches embracing the diversity of students.

**K. Career and Technical Education** Prereq: As listed above.

Procedures for writing, selecting and organizing subject matter for instruction.

**L. Methods of Teaching Information Technology** (3 cr)

Prereq: As listed above and TEAC 259; parallel TEAC 397L or 894L.

Objectives, teaching materials, and methods of presentation emphasizing the organization and management of computer science instruction.

**[IS] N. Secondary Language Arts** (3 or 4 cr) Prereq: As listed above including ENGL 357 and 377; TEAC 438/838; and a grade average of "B" (3.0) or better in subject-area.

Theoretical issues in the teaching and learning of writing, language, and literature.

**\*O. Marketing Education** Prereq: As listed above and TEAC 452K.

Objectives, teaching materials, selection, and organization of subject matter, and methods of instruction and evaluation in marketing.

**[IS] P. Secondary Mathematics** Prereq: As listed above.

Innovative methodology and planning, teaching, and evaluating math lessons for diverse learners.

**[IS] R. Secondary Modern Languages** Prereq: As listed above.

Investigates issues in second language learning and teaching from the perspective of proficiency; contextualized practice in reading, writing, speaking, listening, and culture. Methodological approaches,

review of research, testing guidelines, accuracy, the affective and cognitive needs of students, and the incorporation of authentic materials/language.

**[IS] V. Secondary Science** Prereq: As listed above and parallel with TEAC 397.

Investigates issues in secondary science learning and teaching with emphasis on contextualized practice in each field as well as interdisciplinary approaches to planning, research, testing, laboratory safety, and the affective and cognitive needs of diverse learners.

**[IS] W. Secondary Social Science** Prereq: As listed above.

Theoretical issues in teaching and learning in the individual and integrated social sciences.

**452/852. Curriculum Principles and Practices** (2-3 cr) Prereq: Admission to the Teacher Education Program; completion of 80 percent of subject-area course work with 2.5 GPA or better. Focus on practical issues in the area of teaching and learning as applied to the individual disciplines.

**I. Secondary Art** Prereq: As listed above and TEAC 306 or 406/806.

Theory and research into curriculum incorporating technology, interdisciplinary approaches, active learning, and course content designed to enhance art understanding by students of diversity.

**J. Business Education** Prereq: As listed above and TEAC 451K and parallel with TEAC 397J.

Objectives, teaching materials, selection and organization of subject matter, and methods of instruction and evaluation in business subjects.

**M. Industrial Education** Prereq: As listed above and TEAC 451K and parallel TEAC 397M.

Objectives, curricula, methodology, evaluation, planning, classroom management and course organization.

**[IS] N. Secondary Language Arts** Prereq: As listed above and parallel with TEAC 397.

Planning, teaching, and evaluating language arts lessons for diverse learners.

**P. Secondary Mathematics** Prereq: As listed above and TEAC 451P/851P with a grade of "C+" or better.

Conceptualizing the 7-12 curriculum through multimedia and active, discovery learning.

**[IS] R. Secondary Modern Languages** Prereq: As listed above. Second-language acquisition and learning theory and their relationship to curriculum planning and development. Practice in creative language-use activities designed to build second language reading, writing, speaking, listening, and culture skills. Development of teacher as observer, reflector, and recorder of individual student needs.

**[IS] S. Secondary Science** Prereq: As listed above and TEAC 451V/851V.

Curricular materials, including the application of technology, as they relate to classroom instruction with diverse populations.

**[IS] W. Secondary Social Science** Prereq: As listed above.

Societal diversity and its impact on the 7-12 social science curriculum, regional and national curricular trends, and emerging theory and research in social studies education.

**453/853. The Middle Level Professional Methods** (1-12 cr, max 12) Prereq: Admission to the Teacher Education Program. Development of competence in planning, teaching, classroom management and assessment. Covers the scope, content, and organization of curriculum and instructional materials.

**I. Art** (2 cr)

**N. Language Arts** (2 cr)

**P. Mathematics** (2 cr)

**T. Reading** (2 cr)

**V. Science** (2 cr)

**W. Social Science** (2 cr)

**454/854. Literature in Education** (3-9 cr, max 9) Lec. Comparative analyses of literature and the role of the reader as meaning maker in educational settings.

**A. Literary Response and Analysis** (3 cr)

**B. Multiethnic Literature for Children and Adolescents** (3 cr)

**E. Special Topics** (3 cr)

**480/880. Teaching with Technology** (1-3 cr, max 15)

Survey and analysis of the application of technology to improve teaching. Research and related literature on learning, teaching and curriculum, and the critical application of technology and the development of teaching strategies.

**A. Survey of Instructional Technology** (1-3 cr)

**B. Designing Instructional Technology K-12** (1-3 cr)

**E. Instructional Technology in Mathematics** (1-3 cr)

- J. Instructional Technology in Language Arts** (1-3 cr)
- K. Instructional Technology in Science** (1-3 cr)
- L. Instructional Technology in Social Sciences** (1-3 cr)
- M. Technology Supported Assessment and Evaluation** (1-3 cr)
- N. Web Teaching** (1-3 cr)
- P. Special Topics** (1-3 cr)

**482/882. Instructional Applications of Computers—Practicum** (2-3 cr) Prereq: Permission.

A task-oriented practicum in instructional application of computer to provide an opportunity for repetition and/or demonstration of fundamental practice skills. Combines discussion and demonstration with supervised task-centered field experiences.

**490. Workshop Seminar** (1-12 cr, max 12)

**491. Professional Practicum in Postsecondary Education** (1-10 cr, max 10) Prereq: Permission.

Supervised teaching experiences at postsecondary or adult levels, in public or private schools or agencies.

**495/895. Independent Study** (1-6 cr)

**496/896. Problems in Secondary Education** (1-6 cr) Prereq: Permission.

Opportunities for experienced teachers and administrators to develop plans, procedures, or experiments directed to the improvement of the curriculum or administration of the secondary school.

**497. Student Teaching** (1-14 cr, max 14) Fld. Prereq: Admission by application; completion of all required methods courses and practice with minimum grades of C+ (2.33) per course. (See "Admission to Student Teaching" on page 254). *Pass/No Pass only.* Supervised teaching experiences in schools. Accompanying seminar focuses on: teacher certification, teacher and student rights and responsibilities, proper conduct of teachers, selected legal aspects of education, methods of communicating with parents and community members, and current issues which impact education.

- A. Elementary (K-6)** (1-10 cr, max 10)
- B. Elementary Art** (1-10 cr, max 10)
- E. English as a Second Language** (1-14 cr, max 14)
- G. Elementary Foreign Language** (1-10 cr, max 10)
- I. Secondary Art** (1-10 cr, max 10)
- J. Secondary Business Education** (1-10 cr, max 10)
- M. Secondary Industrial Education** (1-10 cr, max 10)
- N. Secondary Language Arts** (1-10 cr, max 10)
- O. Secondary Marketing Education** (1-10 cr, max 10)
- P. Secondary Mathematics** (1-10 cr, max 10)
- Q. Middle School** (1-10 cr, max 10)
- R. Secondary Modern Language** (1-10 cr, max 10)
- V. Secondary Science** (1-10 cr, max 10)
- W. Secondary Social Science** (1-10 cr, max 10)
- Y. Mainstreaming** (NUTR, SPED 497Y) (1 cr)
- Z. Multicultural** (NUTR, SPED 497Z) (1 cr)

**498/898. Problems in Elementary Education** (2-3 cr) Prereq: Permission.

Opportunities to develop plans, procedures, experiments, and models directed to the improvement of elementary school education on an independent study basis.

**499H. Honors Thesis** (3 cr) Prereq: Good standing in the University Honors Program or by invitation.

Conduct a scholarly research project and write a University Honors Program or undergraduate thesis.

**\*800. The Research on Teaching and Instructional Improvement** (3 cr)

**\*801. Curriculum Improvement: Theory, Research, and Practice** (3 cr)

**\*805. Advanced Teaching Methods in Occupational Education** (ALEC 805) (1-3 cr)

**\*806. Reading and Writing Disabilities: Adolescents** (SPED 406/806) (1-3 cr, max 6) Lec. Prereq: Parallel SPED 406A/806A.

- A. Reading Center Practicum** (SPED 406/806) (1-3 cr, max 3)

**809. Improvement of Instruction in Elementary School Social Studies** (3 cr) Prereq: 12 hrs education including TEAC 307 or permission; teaching experience or successful completion of student teaching.

**812. Improvement of Instruction in Elementary School Science** (3 cr) Prereq: 12 hrs education including TEAC 315 or permission; teaching experience or student teaching.

**\*813. Teaching English as a Second Language** (3 cr)

**815. Development and Organization of Vocational Education** (ALEC 815) (1-3 cr)

**817. Emerging Literacy** (3 cr) Prereq: Elementary endorsement.

**\*822. Principles and Practices in Social Studies Education** (1-3 cr, max 9)

- A. Special Topics** (1-3 cr)

**833. Comparative Education** (3 cr)

**\*835. Ethnic Minorities and American Education** (3 cr)

**842. Objectives and Methods of Secondary School Science Teaching** (3 cr)

**843. Introduction to Research in Music Education** (MUED 843) (2-3 cr)

**\*844. Administering School Media Programs** (3 cr)

**845. Foundations for Graduate Study in Music Education** (MUED 845) (2-3 cr)

**\*846. The Middle Level Curriculum** (3 cr) *Not open to students with credit in TEAC 446.*

**\*848. The Curriculum of the High School** (3 cr) Prereq: TEAC 800 and 801.

**\*849. Instruction of the Transcendent Student** (3 cr) *Not open to students with credit in TEAC 449.*

**\*850. Perspectives in Popular Music through Guitar** (MUED 850) (3 cr) Prereq: MUSC 370 or equivalent or permission.

**859. Instructional Message Design** (3 cr)

**860. Production and Utilization of Instructional Materials** (3 cr) *This course is meant to be taken after and in sequence with TEAC 859.*

**861. Education for a Pluralistic Society: Foundation and Issues** (3 cr)

**868. Management of School Activities** (EDAD 868) (3 cr)

**\*869 (869x). Small-Scale Chemistry Activities for Secondary School Classrooms** (CHEM \*869) (3 cr) *This course cannot be taken for graduate credit in chemistry.*

**\*870. Music for the Exceptional Child** (3 cr)

**873. Approaches to Middle School General Music** (MUED 873) (3 cr)

**881. Music in Early Childhood Education** (MUED 881) (3 cr) Prereq: Permission.

**\*885. Education of Gifted Children** (SPED \*855) (3 cr) Prereq: Permission.

**886. Assessment, Evaluation and Remedial Instruction in School Literacy** (SPED 886) (3 cr)

- A. Special Topics in Literacy Assessment** (SPED 886A) (1-3 cr, max 3)

**890. Workshop Seminar** (1-12 cr, max 12)

**893. Workshop Seminar** (1-12 cr, max 12)

**897J. Student Teaching: Gifted and Talented** (EDPS, SPED 897J) (1-12 cr) Prereq: By application only (Gifted and Talented Program).

**\*899. Masters Thesis** (6-10 cr)

Refer to the Graduate Bulletin for 900-level courses.

## Athletic Practice (ATHP)

Students eligible to enroll in athletic practice and conditioning courses may earn a maximum of 4 hrs of credit toward graduation.

All athletic practice courses are one credit hour and are graded on a Pass/No Pass basis.

The prerequisite for all athletic practice courses is: "by permission" and "being a member of the varsity team in that sport".

**101. Athletic Practice** (1 cr per sem, max 10) Lab. Prereq: Member of a varsity sports team and permission. *The maximum credit hours allowed toward the degree varies by college. Pass/No Pass only.*  
Varsity sports practice.

## Athletic Coaching (ATHC)

**[ES][IS] 279. Coaching Effectiveness and Psychological Components of Sports Performance** (3 cr) Lec.  
Key concepts to becoming an effective coach. Creation of a sound educational philosophy, values development, assessment techniques, practical issues tied to interscholastic coaching, and a review of those psychological factors that can improve sports performance for athletes.

**310. Coaching of Baseball** (2 cr)  
Individual fundamentals, team development, rules, conditioning problems, and practice in baseball.

**311. Coaching of Basketball** (2 cr)  
Rules; individual and team play; offensive and defensive strategy; tournament preparation; fundamental drills.

**312. Coaching of Football** (2 cr)  
Rules, study, and practice of fundamental offensive and defensive skills; application of elementary principles to team play; health and safety practices; equipment and game strategy.

**314. Coaching of Softball** (2 cr)  
Philosophy of coaching, analysis of skills, strategy, selection of team members, rules, and officiating of softball.

**316. Coaching of Tennis and Other Racquet Sports** (2 cr)  
Philosophy of coaching, conditioning, analysis of skills, strategies, organization of practice and matches, rules, and officiating as related to tennis. Introduction to badminton, racquetball, and squash.

**317. Coaching of Track** (2 cr)  
Theory and practice of coaching track including strategy, rules, and training procedures.

**318. Coaching of Volleyball** (2 cr)  
Philosophy of coaching, conditioning, analysis of skills, strategies, team selection process, officiating, and conduct of practices as related to volleyball.

**320. Coaching of Soccer** (2 cr)  
Theory and practice of coaching soccer. Rules, organization of practice and matches, health and safety considerations, analysis of offensive and defensive skills and strategies.

**350. Coaching Effectiveness** (3 cr)  
Development, implementation, and assessment of strategies designed to improve team and individual performance. Practice management, program management, and ethical and/or social issues related to coaching.

**494. Practicum in Coaching** (1-3 cr) Prereq: Permission.  
Practical experience in coaching in youth sports and interscholastic athletic programs.

## Education and Human Sciences (CEHS)

**010. CEHS Advantage** (0 cr I) Lec. Prereq: CEHS Advantage Learning Community student. *CEHS 010 is designed for first semester freshmen who are participating in the College of Education and Human Sciences learning community known as CEHS Advantage. Pass/No Pass only.*

Leadership, problem solving, communication and teamwork. Use creativity by doing a service learning project and explore career possibilities.

**(ACE 6) [ES] 200. Families, Schools, and Communities** (3 cr)

Lec, lab.

Roles played by family, schools, and community in developing individuals and the interface among these entities. Develop skills in using personal strengths to help others.

## Educational Administration (EDAD)

**Chair: Professor Larry Dlugosh**

**Professors:** Bryant, Grady, Griesen, Joekel, Stick

**Assistant Professor:** Winkle-Wagner

**Associate Professors:** Cejda, Isernhagen, LaCost, Torraco, Uerling

**Senior Lecturers:** Benning, Hoover, Lammel

**Lecturer:** McNulty

**421/821. Foundations of Human Resource Development** (3 cr)

Lays the foundation for further study of Human Resource Development (HRD) by examining the knowledge of HRD professionals, the roles they play, and the organizational settings in which HRD occurs. The design and development of education and training programs, how change occurs in organizations, how career development can optimize the match between individual and organizational goals and needs, and how to improve performance in organizations by analyzing performance opportunities and designing employee training to address these opportunities.

**422/822. Instructional Design in Human Resource Development** (3 cr)

Examines the role of instruction for enhancing human learning and performance in organizations. The analysis of performance problems/opportunities and design of interventions for learning and performance improvement. The essential components of instruction, selecting instructional methods and media to achieve program objectives, the transfer of learning, and evaluating the effectiveness of instruction. The performance enhancing potential of systematically linking needs analysis, instructional design, and program evaluation.

**499H. Honors Thesis** (3 cr) Prereq: Good standing in the University Honors Program or by invitation.

Conduct a scholarly research project and write a University Honors Program or undergraduate thesis.

**800. Schooling and Administration** (1-9 cr)

**\*810. Foundations of Building Administration** (3-9, max 9) Prereq: EDAD 800 or equivalent.

**\*811. Practicum in Educational Administration and Supervision** (3-4 cr) Prereq: Permission.

**\*812. Management of School Activities** (TEAC \*868) (3 cr)

**\*830. Administrative Theory in Educational Organizations** (3 cr)

**\*833. Educational Finance** (3 cr)

**\*834. Administration of Adult Education Agencies** (3 cr)

**\*835. Business Management of Schools** (3 cr)

**\*836. System Planning in Administration** (2-3 cr)

**\*837. Education Law** (1-4 cr)

**\*838. Educational Surveys** (2-3 cr)

**\*839. Educational Facilities** (2-3 cr)

**\*849. Leadership of Complex Education Organization** (6-9 cr) Prereq: EDAD 800 and 810 or equivalent.

**856. Supervising Special Education** (SPED 856) (3 cr)

**857. Special Education Administration** (SPED 857) (3 cr)

**858. Special Education Law** (SPED 858) (3 cr)

**\*890. Workshop Seminar**

**\*893. Workshop Seminar**

**\*896. Independent Study** (1-6 cr) Prereq: Permission.

**\*899. Masters Thesis** (6-10 cr)

The following courses are a part of the joint Educational Administration–College of Law graduate program. Only those students who have been fully admitted to the program may enroll in these courses. Details for admission to this program may be obtained at the Department of Educational Administration.

**870. Constitutional Law I** (LAW 609) (3 cr)

**871. Constitutional Law II** (LAW 732) (3 cr)

**872. Introduction to Law, Legal Process, and Legislation** (LAW 511) (3 cr)

**874. Torts I** (LAW 503) (1-6 cr, max 6)

**875. Torts II** (LAW 504) (1-6 cr, max 6)

Refer to the Graduate Bulletin for 900-level courses.

## Educational Psychology (EDPS)

**Chair: Professor J. R. De Ayala**

**Professors:** Ansorge, Bruning, Creswell, Daly, Doll, Franco, Geisinger, Kiewra, Moshman, Newman, Sheridan, Weissinger

**Associate Professors:** Evans, Scheel, Swearer

**Assistant Professors:** Buhs, Bovaird, Davidson, McCurdy, Yakushko

**097. Mini-Seminar** (0 cr) *EDPS 097 is graded Pass/No Pass only.*

**109. Learning How to Learn** (1 cr)

Ideas from educational psychology, cognitive psychology, and various academic disciplines are presented in order to improve students' learning ability in academic and applied settings. Strategies for information acquisition, studying, test taking, error analysis, time management and motivation.

**121. United States Education and Culture** (3 cr)

Education and culture in the United States with emphasis on the tools for academic achievement in United States universities.

**150. Career Development Seminar** (1-2 cr)

Two main elements, self-assessment and career information, and the relation between the two make up the course. Active exploration, examination, and pursuit of career possibilities, and theoretical considerations, and their relationship to the individual. First credit focuses on self-assessment; second credit on informational resource use.

**[ES][IS] 189H. Honors: How to Learn and Develop Talent** (3 cr) Good standing in the University Honors Program or by invitation.

Ideas from cognitive psychology, educational psychology, and various other disciplines (i.e., art, music, and chess) presented to help students understand learning and talent development, improve academic learning skills, and improve personal talents.

**197. Professional Practicum Experiences** (1-4 cr)

Guided participation in schools and/or selected agencies offering programs for children/youth.

**(ACE 6) [ES] 209. Strategies for Academic Success** (3 cr) *Credit towards the degree may be earned in only one of EDPS 109 or 209.* Comprehensive examination of learning theory and practice of learning strategies related to motivation, time management, memory, lecture note taking, text processing, knowledge

representation, test review, test taking, and error analysis in academic settings.

**(ACE 6) [IS] 250. Fundamentals of Child Development for Education (3 cr)**

Fundamental concepts and principles of human development with reference to cognitive and social/emotional development from infancy to early adolescence. Biosocial forces which affect behavior and development in children in relation to educational practice.

**(ACE 6) [IS] 251. Fundamentals of Adolescent Development for Education (3 cr)**

Fundamental concepts and principles of human development with reference to cognitive and social/emotional development from late childhood to early adulthood. Biosocial forces which affect behavior and development in adolescents as they relate to educational practice.

**297. Professional Practicum Experiences II (TEAC, NUTR, SPED 297) (1-4 cr, max 12) *An accompanying seminar is included where the professional role of the teacher is discussed.***

For course description, see TEAC 297.

- A. Elementary (1-4 cr, max 4) Parallel EDPS 250.
- B. Elementary (1-4 cr, max 4) Parallel TEAC 351.
- I. Secondary Art (1-4 cr, max 4)
- J. Secondary Business Education (1-4 cr, max 4)
- M. Secondary Industrial Education (1-4 cr, max 4)
- N. Secondary Language Arts (1-4 cr, max 4)
- O. Secondary Marketing Education (1-4 cr, max 4)
- P. Secondary Mathematics (1-4 cr, max 4)
- Q. Middle Level (1-4 cr, max 4)
- R. Secondary Modern Languages (1-4 cr, max 4)
- V. Secondary Science (1-4 cr, max 4)
- W. Secondary Social Science (1-4 cr, max 4)

**327. Introduction to Human Relations in Education (ALEC 327) (3 cr) Lec.**

Individual personal strengths, characteristics, and leadership potential. Experiential application of leadership theories, philosophies, and skills in building relationships. Empowerment, purposeful and process-oriented relational leadership.

**(ACE 3) [ES] 330. Measurement and Evaluation in Nutrition, Fitness and Health Promotion (3 cr)**

Procedures for describing data. Concepts related to selecting psychomotor tests; constructing and evaluating cognitive paper and pencil examinations; utilizing computer technology in delivering, collecting, and evaluating information.

**337. Principles of Interpersonal Relationships in Education (2-3 cr) Prereq: Sophomore standing; EDPS/ALEC 327.**

Interpersonal relationships as they affect education. Third hour directed observation and case studies.

**(ACE 6) [IS] 362. Learning in the Classroom (3 cr) Prereq: EDPS 251 or equivalent.**

Conditions (factors) essential to learning and its facilitation and transfer. Measurement of learning aptitude, achievement, and other aspects of human development.

**397. Professional Practicum Experience III (TEAC, SPED 397) (1-10 cr, max 10) Prereq: Admission to Teacher Education Program.**

For course description, see TEAC 397.

- D. Unified Primary K-3 (1-10 cr)

**434. Comparative Education (3 cr)**

Comparative study of the foundations, trends, and problems of selected national systems of education as seen in cultural perspective.

**450/850. Child Psychology (3 cr)**

Advanced study of the behavior and development of preschool and elementary school children.

**451/851. Psychology of Adolescence (3 cr)**

Mental, social, and emotional development of boys and girls during the adolescent period.

**454/854. Human Cognition and Instruction (3 cr)**

Cognitive psychology and its applications in instruction. Memory, problem solving, cognitive process in reading, research approaches, and applications to teaching.

**(ACE 6) [IS] 457. Learning and Motivation Principles for Secondary Teaching (3 cr)**

Learning and motivation principles for instruction and assessment at the secondary level.

**(ACE 3) [ES] 459/859. Statistical Methods (3 cr)**

Computation and interpretation of measures of central position, variability, and correlation; introduction to sampling, probability, and tests of significance.

**462/862. Psychology of Disability (3 cr)**

Research and theoretical literature related to the relationship between various disabling conditions and the psychological functioning of the person with disability.

**463/863. Human Behavior Analysis (3 cr)**

Research methods and findings, concepts, and principles of operant conditioning as related to the experimental analysis of human behavioral events and to the development of behavior engineering technologies.

**465/865. Practices in Counseling and Personnel Services (1-8 cr)**

Basic practices and related research in counseling and helping practices in educational or other youth-serving agencies. Specialized applications to populations presenting unique problems are offered in sections B through L.

**B. Special Practices for Handicapped Children and Youth (1 cr) Prereq or parallel: EDPS 865A.**

**D. Special Practices for Exceptionally Talented and Gifted (1 cr) Prereq or parallel: EDPS 865A.**

**E. Special Practices in the Elementary School (1 cr) Prereq or parallel: EDPS 865A.**

**K. Special Practices for Vocational Education/Development Programs (1 cr) Prereq or parallel: EDPS465A/865A.**

**L. Special Practices for Community Helpers Working With Adults (1 cr) Prereq or parallel: EDPS 865A.**

**470/870. Introduction to Educational and Psychological Measurement (3 cr) Prereq: EDPS 459/859 or equivalent.**

Introduction to the construction, evaluation, and ethical use of measurement instruments commonly used in education and psychology. Test construction principles, item analysis, reliability, validity, ethical issues in testing, and evaluation of standardized tests.

**471/871. Human Sexuality and Society (CYAF, PSYC, SOCI 471/871) (3 cr) Prereq: Junior standing and 12 hrs in one of the departments in which the course is listed. *Open to advanced students planning careers in the professions in which knowledge of human behavior and society is important (e.g., helping professions, medicine, law, ministry, education, etc.).***

For course description, see PSYC 471/871.

**[IS] 478/878. Pro-seminar in Latin American Studies (LAMS 478; ANTH, GEOG, HIST, MODL, POLS, SOCI 478/878) (3 cr, max 6) Prereq: Junior standing and permission.**

For course description, see ANTH 478/878.

**490. Workshop Seminar (1-12 cr, max 12)**

**493. Workshop Seminar (1-12 cr, max 12)**

**496/896. Directed Field Experience (1-24 cr) Prereq: Permission.**

**497. Readings in Educational Psychology and Measurements (1-6 cr) Prereq: Permission.**

**498/898. Special Topics (1-6 cr, max 6) Prereq: Permission.**

Seminar on current issues or topics in educational psychology. Topics vary.

**499H. Honors Thesis (3 cr) Prereq: Good standing in the University Honors Program or by invitation.**

Conduct a scholarly research project and write a University Honors Program or undergraduate thesis.

**800. Foundations of Educational Research (3 cr) Prereq: Prior or parallel enrollment in EDPS 859 Statistical Methods, or completion of its equivalent.**

**\*810. Educational Gerontology (GERO 410/810) (3 cr)**

**825. Coordination in Occupational Training Programs (TEAC 425/825) (1-3 cr)**

**\*830. Measurement and Evaluation in Physical Education (NUTR 830) (3 cr) Prereq: 18 hrs physical education.**

**860. Applications of Selected Advanced Statistics (3 cr) Prereq: EDPS 859.**

**\*866. Counseling: Comparative Professional Survey (3 cr)**

**865A. Basic Practices in Counseling and Personnel Services (2 cr) Prereq: Permission.**

**865J. Special Practices in Junior and Senior High School (1 cr) Prereq or parallel: EDPS 865A.**

**867. Roles and Functions in School Psychological Services (3 cr)**

**\*868. Multicultural Counseling (3 cr) Prereq: EDPS 866 or comparable course or permission.**

**869. Psychopathological Disorders of Childhood and Adolescence (3 cr)**

**\*890. Workshop Seminar (1-12 cr, max 12)**

**\*893. Workshop Seminar (1-12 cr, max 12)**

**897J. Student Teaching: Gifted and Talented (TEAC, SPED 897J) (1-12 cr) Prereq: By application only (Gifted and Talented Program).**

**\*899. Masters Thesis (6-10 cr)**

Refer to the Graduate Bulletin for 900-level courses.

## Special Education and Communication Disorders

**Chair: Professor J. E. Bernthal**

**Professors:** Beukelman, Decker, Epstein, Healey, Maag, Meers, Nelson, Peterson, Reid, Sanger

**Associate Professors:** Carrell, Cress, Green, Hux, Marvin, Siegel

**Assistant Professors:** Hogan, Kim

**Research Assistant Professor:** Scheffler

**Assistant Professors of Practice:** Boney, Eccarius, Kemp, Wacker

**Senior Lecturer:** Menefee

**Lecturers:** Davis, Farrand, Morehouse, Prentice, Ray, Rupp, Splattstoesser, Weissling, Willman

## Special Education (SPED)

**(ACE 6) 201. Introduction to Special Education (3 cr)**

Introduction to basic concepts related to the education of exceptional learners. Historical factors, legislative statutes, and instructional models.

**297. Professional Practicum Experiences II (TEAC, EDPS, NUTR 297) (1-4 cr, max 12) *An accompanying seminar is included where the professional role of the teacher is discussed.***

For course description, see TEAC 297.

**A. Elementary (1-4 cr, max 4) Parallel EDPS 250.**

**B. Elementary (1-4 cr, max 4) Parallel TEAC 351.**

**I. Secondary Art (1-4 cr, max 4)**

**J. Secondary Business Education (1-4 cr, max 4)**

**M. Secondary Industrial Education (1-4 cr, max 4)**

**N. Secondary Language Arts (1-4 cr, max 4)**

**O. Secondary Marketing Education (1-4 cr, max 4)**

**P. Secondary Mathematics (1-4 cr, max 4)**

**Q. Middle Level (1-4 cr, max 4)**

**R. Secondary Modern Languages (1-4 cr, max 4)**

**V. Secondary Science (1-4 cr, max 4)**

**W. Secondary Social Science (1-4 cr, max 4)**

**[IS] 302. Assessment Techniques for Diverse Learners (3 cr) Prereq: SPED 201.**

The role of general education teachers in the primary purposes of assessment of learners with diverse needs. Knowledge and experience with interpreting norm-referenced test information as related to planning educational programs. Use of assessment information for instructional planning and evaluation. Testing accommodations and classroom grading.

**[ES][IS] 303. Behavior Management** (3 cr) Prereq: SPED 201. For elementary education majors: Parallel TEAC 297A or any other elementary education practicum. For secondary special education majors: Parallel SPED 496M.

Strategies and techniques for the management of challenging behaviors displayed by school-age children. Reciprocal nature of human behavior and environment. Functional analyses of behavior problems, strategies for preventing behavior problems, techniques for increasing prosocial behavior, non-aversive procedures for decreasing problematic behavior, and methods for teaching children self-management.

**[IS] 304. Instructional Methods for Students with Diverse Needs** (3 cr) Prereq: SPED 201.

Instructional methods and accommodations for special education and general education teachers necessary to work successfully with students with disabilities or who are at-risk for academic failure. Curriculum modification, classroom management, strategy instruction, and instructional modifications for content areas.

**310. Collaborative Practices** (3 cr) Prereq: SPED 201.

Conceptual foundations, strategies and techniques for communicating effectively with educational personnel and parents. Roles of educational personnel in inclusive settings, pragmatic issues involved in designing and implementing collaborative efforts, techniques for increasing interpersonal problem solving, modes of communication, and skills for dealing with conflict and resistance.

**313. Advanced Interventions for Social Problems** (3 cr) Prereq: SPED 201 and 303.

Remediation of social difficulties of students with disabilities. Cognitive-behavior modification, programming generalization, managing resistance, and social skills assessment and training.

**362. Early Childhood Special Education** (3 cr) Lec, quiz.

Prereq: SPED 201 and 303; Parallel SPED 496Y; CYAF 474 or parallel. Admission to the Inclusive Early Childhood Education Program (IECE) or permission of instructor and/or adviser. Teaching and caring for children under age five with specific disabilities. Design of Individualized Education Plans (IEPs) or Individualized Family Service Plans (IFSPs) and strategies for teaching and learning in natural, child-interest activities.

**397. Professional Practicum Experience III** (TEAC, EDPS 397) (1-10 cr, max 10) Prereq: Admission to the Teacher Education Program. For course description, see TEAC 397.

**D. Unified Primary K-3** (1-10 cr)

**[IS] 400/800. Characteristics of Exceptional Persons** (3 cr)

Etiology, growth and development, and characteristics of children and youth who deviate from the norm.

**[IS] 401A/801A. Accommodating Exceptional Learners in the Elementary School Classroom** (3 cr) Prereq: Admission to the Teacher Education Program; EDPS 362; TEAC 195; one methods course; or permission.

Legal and ethical requirements for educating exceptional learners; identification, referral, and placement procedures; development and use of the Individual Education Program; strategies for teaching and evaluating; managing the academic and social behaviors of a range of exceptional and other at-risk learners in the elementary school.

**[IS] 401B/801B. Accommodating Exceptional Learners in the Secondary School Classroom** (3 cr) Prereq: Admission to the Teacher Education Program; EDPS 362; TEAC 195; one methods course; or permission.

Legal and ethical requirements for educating exceptional learners; identification, referral, and placement procedures; development and use of the Individual Education Program; strategies for teaching and evaluating; managing the academic and social behaviors of a range of exceptional and other at-risk learners in the secondary school.

**405/805. Code-based Reading Instruction** (1-3 cr, max 6) Lec.

Prereq: Parallel SPED 405A/805A. Direct, systematic, multi-sensory techniques for teaching reading, writing and spelling to students who have severe reading problems.

**405A/805A. Reading Center Practicum I** (1-3 cr, max 3) Fld.

Prereq: Permission. *SPED 405A/805A requires two hours per week in a Reading Center.*

Teaching and/or tutoring experience evaluating and instructing students with reading problems in a Reading Center. Assessment, lesson planning and teaching using direct instruction, code-based instructional strategies.

**406/806. Reading and Writing Disabilities: Adolescents** (TEAC \*806) (1-3 cr, max 6) Lec. Prereq: Parallel SPED 406A/806A.

Theory and techniques for assessing and teaching word identification, vocabulary, comprehension and writing skills in grades 7 to 12.

**406A/806A. Reading Center Practicum II** (TEAC \*806A) (1-3 cr, max 3) Fld. Prereq: Permission. *SPED 406A/806A requires two hours per week in a Reading Center.*

Teaching and/or tutoring experience evaluating and instructing students with reading problems in a Reading Center. Assessment, instructional planning, delivery of instruction, writing diagnostic reports and parent communication.

**[IS] 407/807. Teaching Students with Disabilities in the Secondary School** (3 cr) Prereq: SPED 201 or 400/800.

Information about the mildly/moderately disabled secondary-level student; including characteristics, assessment, models for programs, social skill training, behavior management, working with parents, and curriculum modification.

**408/808. Issues in Secondary Programs for Students with Mild Disabilities** (3 cr) Prereq: Special Education Professional Semester and SPED 407.

Issues in secondary education for students with mild disabilities based on current literature and needs of individual students.

**415/815. Reading and Writing Disabilities: Elementary Students** (1-3 cr, max 6) Prereq: SPED 201, TEAC 311, 313 for elementary education majors; SPED 201, 302, 303, 304 (or equivalent) for SPED majors. Parallel: SPED 415A/815A.

Theory and techniques for assessing and teaching early literacy skills in small groups and one-on-one for children who struggle with literacy.

**A. Reading Center Practicum: Elementary Students** (1-3 cr, max 3) Fld.

**[IS] 434/834. Introduction to Special Vocational Needs** (3 cr)

A foundational course emphasizing the characteristics and identification of special needs learners in vocational settings. Determines needs, interests, and abilities of these students.

**436/836. Career Education for the Special Needs Student** (3 cr)

Prereq: SPED 434/834 or permission. Philosophical and practical base of career education as it relates to special needs students. Career education units developed for infusion into subject areas.

**472/872. Psychology and Sociology of Deafness** (3 cr)

Education of the hearing impaired including history of, professional roles in, and educational programming within this field. Social/psychological theories as related to the hearing impaired. Patterns of social/emotional development, psychological characteristics, issues of family stress and social adaptation and discussion of counseling techniques.

**480/880. Educating Students with Intellectual Impairments and Developmental Disabilities** (3 cr)

Concepts related to history, definitions, identification, etiology, and assessment of students with intellectual impairments and developmental disabilities. Examine attitudes, assumptions, and stereotypes concerning persons with intellectual impairments and other developmental disabilities. Instructional methods, adaptations and teaming to provide individualized interventions and include students in least restrictive environments/general education settings. Observation in schools and applied assignments required.

**490. Workshop Seminar** (1-12 cr, max 12)

**493. Workshop Seminar** (1-12 cr, max 12)

**495/895. Independent Study in Special Education** (1-3 cr)

Prereq: Prior arrangements with faculty member and permission. Special research or reading project under direction of a staff member in the department.

**496/896. Directed Field Experience** (1-6 cr, max 12) Fld. Prereq: Permission. *Pass/No Pass only.*

**E. Field Experience: General Special Education** (1-6 cr, max 12)

**M. Field Experience: Mild/Moderate** (1-6 cr, max 12)

**Y. Field Experience: Inclusion** (1-6 cr, max 12)

**497. Student Teaching: Exceptional Learner** (1-12 cr, max 12) Fld. Prereq: Admission by application only. *Pass/No Pass only.* For course description, see TEAC 497.

**M. Student Teaching: Mild/Moderate** (3-12 cr, max 12)

**Y. Student Teaching: Inclusion** (1 cr)

**Z. Student Teaching: Multicultural** (TEAC/NUTR 497Z) (1 cr)

**498. Seminar: Mildly Handicapped** (1 cr) Prereq: Concurrent registration with SPED 497M. *Pass/No Pass only.*

Opportunities to refine knowledge of concepts, instructional strategies, and attitudes related to the education of exceptional learners. Peer- and instructor-generated topics that are relevant to the student teaching experience.

**499H. Honors Thesis** (3 cr) Prereq: Good standing in the University Honors Program or by invitation.

Conduct a scholarly research project and write a University Honors Program or undergraduate thesis.

**\*802. Advanced Assessment Techniques** (3 cr) Prereq: SPED 800 or equivalent; or permission.

**\*803. Designing Programs for Exceptional Learners** (3 cr) Prereq: SPED 800 and 802; or permission.

**\*804. Advanced Methods for Management of Exceptional Learners** (3 cr) Prereq: SPED 800, 802, 803; or permission.

**831. Characteristics of Specific Learning Disabilities** (3 cr) Prereq: SPED 800 or permission.

**841. Characteristics of Behavioral Disorders** (3 cr) Prereq: SPED 800 or permission.

**\*851. Education of the Visually Impaired I** (1-6 cr, max 6)

**\*852. Education of the Visually Impaired II** (1-6 cr, max 6)

**A. Braille Codes and Formats** (2-week course)

**B. Nemeth Code**

**\*853. Visually Impaired/Multihandicapped** (1-6 cr, max 6)

**856. Supervising Special Education** (EDAD 856) (3 cr)

**857. Special Education Administration** (EDAD 857) (3 cr)

**858. Special Education Law** (EDAD 858) (3 cr)

**860. Issues in Early Childhood Special Education** (3 cr)

**861. Programs for Handicapped Infants and Toddlers** (3 cr)

**\*862. Teaching Preschool Handicapped Children** (3 cr)

**863. Medically Fragile Infants** (3 cr)

**\*873. Teaching the Content Areas to the Hearing Impaired** (3 cr)

**874. Language Arts for the Hearing Impaired** (3 cr)

**875. Reading for the Hearing Impaired** (3 cr) Prereq: Permission.

**\*881. Educational Programming for Students with Severe Disabilities** (3 cr) Prereq: SPED \*880 or permission.

**\*882. Instructional Strategies for Students with Severe Disabilities** (3 cr) Prereq: SPED \*881 (for SMH endorsement students), SPED \*862 (for ECH endorsement students) or permission.

**\*885. Education of Gifted Children** (TEAC \*885) (3 cr) Prereq: Permission.

**890. Workshop Seminar**

**893. Workshop Seminar**

**\*897. Student Teaching: Exceptional Learners** (1-12) Prereq: By application only. (See "Admission to Student Teaching" on page 254.)

**A. Mainstream**

**B. Behavior Disordered**

**D. Hearing Impaired**

**J. Gifted and Talented**

**L. Learning Disabled**

**P. Severely Multihandicapped**

**Q. Preschool Handicapped**

**V. Visually Impaired**

**Z. Multicultural Education**

**899. Masters Thesis** (6-10 cr) Prereq: Permission.

Refer to the Graduate Bulletin for 900-level courses.

## Speech-Language Pathology and Audiology (SLPA)

Application is necessary for entrance to the pre-professional program in speech-language pathology and audiology and is normally made by September 15 or February 1 of the semester in which the student will have completed SLPA 150, 250, 251, 271, and anatomy or physiology. Acceptance is based on academic performance in these four courses and an overall 3.0 grade point average. Admission to the Graduate College and subsequent completion of the requirements for a masters degree will entitle the student to receive a teaching certificate in speech-language pathology and meet academic and practicum requirements for state licensure in speech-language pathology or audiology and the Certificate of Clinical Competence in speech-language pathology (CCC-S) or audiology (CCC-A). Contact the departmental chief undergraduate adviser, 318B Barkley Center, for further information.

### 101. Beginning American Sign Language I (4 cr)

Beginning course in American Sign Language (ASL). Development of vocabulary and grammatical structures of ASL. Receptive and expressive skill development. Easy ASL video literature.

### 102. Beginning American Sign Language II (4 cr) Prereq: SLPA 101.

Beginning course in American Sign Language (ASL). Development of vocabulary and grammatical structures of ASL. Receptive and expressive skill development. Easy ASL video literature.

### 150. Communication Processes and Disorders (3 cr)

Introduction to the speech, language, and hearing problems of children and adults. Identification and understanding of different types of communication disorders; appropriate referrals; general orientation to the field of speech-language pathology and audiology. Normal speech and language development. Clinical observations may be required.

### 199. Independent Study (1-3 cr) Prereq: Permission.

### 201. Second Year American Sign Language I (4 cr) Prereq: SLPA 101 and 102.

Conversational American Sign Language (ASL). Idiomatic uses of ASL. Use of ASL for creative expression. Extensive viewing, translation and discussion of videotaped ASL conversations and literature.

### 202. Second Year American Sign Language II (4 cr) Prereq: SLPA 201.

Conversational American Sign Language (ASL). Idiomatic uses of ASL. Use of ASL for creative expression. Extensive viewing, translation and discussion of videotaped ASL conversations and literature.

### (ACE 6) [ES][IS] 230. The Brain and Human Communication (3 cr)

Scientific background for understanding brain functions as applied to normal human communication and communication disorders. How the brain engages in visual communication, auditory communication, attention, organization, memory, and expression.

### 250. Descriptive Phonetics and Normal Speech Development (3 cr)

Theories of acquisition and development, phoneme classification and factors affecting phonological systems. Development of proficiency in phonetic transcription.

### 251. Normal Language Development (3 cr) Prereq: Sophomore standing.

Description of the normal language acquisition process in children; theories of language development and factors influencing language acquisition.

### [ES] 271. Introduction to Audiology (3 cr)

Identification of the deaf or hard of hearing. Etiologies and pathologies of hearing impairment. Basic testing techniques of pure tone and speech audiometry.

### 397A. Introduction and Observation (1 cr) Prereq: Admission to the Pre-Professional Program in speech-language pathology and audiology.

### 398. Special Topics in Speech-Language Pathology and Audiology (3 cr) Prereq: Permission.

### 399. Independent Study (1-3 cr) Prereq: Permission.

### [IS] 421. Professional Issues for the Communication Disorders Specialist (3 cr) Prereq: Senior standing.

Professional issues as they relate to the speech-language professional. Legal aspects, program issues, and administrative responsibilities.

### 441. Methods for the Communication Disorders Specialist (3 cr) Prereq: Senior standing.

Specific methods for planning, organizing and delivering clinical services in speech-language pathology.

### 450/850. Audiology for Educators of the Deaf or Hard of Hearing (3 cr II) (UNL, UNO) Lec 3.

Anatomy and physiology of hearing; components of adequate evaluation for placement and educational planning; diagnosis using audiogram, functional and communication assessment; stimulation and utilization of residual hearing; and management of assistive and/or augmentative devices.

### 452/852. Normal Language Development During School Years (3 cr)

Normal syntactic, semantic, and pragmatic language development in school-age children and youth. Complex syntax, semantic development, pragmatic development, using language to learn, language-literacy relations, and abstract language development.

### 454/854. Research Methodology in Speech-Language Pathology and Audiology (3 cr) Prereq: Speech-language pathology and audiology major.

Introduction to research principles, methods, and design. Survey and critique of research in special education and communication disorders.

### [ES] 455. Anatomy and Physiology of the Speech and Hearing Mechanisms (4 cr) Prereq: SLPA 250.

Normal anatomical structures involved in speech and hearing and the consequences of their actions.

### 456. Speech and Hearing Science (4 cr) Prereq: SLPA 250 and 455 or permission.

Nature, propagation, and analysis of sound; the sensation and perception of sound.

### 461/861. Language Disorders: Preschool Level (3 cr I) Lec 3.

Prereq: Parallel SLPA 461L/861L.

Characteristics of language-impaired preschool children and the nature of their disorders. Introduction to principles of assessment and treatment.

### 461L/861L. Language Disorders: Preschool Level Lab (1 cr I)

Lab. Prereq: Parallel SLPA 461/861.

Practical application of language assessment and intervention in preschool children with language disorders.

### [IS] 464. Phonological Disorders (4 cr I, II) Lec 3, lab 1. Prereq: SLPA 250.

Assessment and remediation of phonological disorders.

### 472. Introduction to Aural Rehabilitation (3 cr) Prereq: SLPA 271 or equivalent.

Introduction to materials and educational methodologies and models for rehabilitation of the deaf or hard of hearing. Review of levels of communication, information processing, auditory training, and speech reading.

### 473. Advanced Audiology (3 cr) Prereq: SLPA 271.

Fundamental clinical audiology techniques beyond basic pure tone testing, including advanced pure tone testing techniques; bone conduction measurement theory and procedures; masking theory and techniques; speech audiometry; and impedance audiometry.

### 486/886. Augmentative Communication (2-3 cr) Speech pathology students must register for 3 cr only; special education students may register for 2-3 cr.

Introduction to the augmentative communication options for persons unable to speak or write because of physical, language, or cognitive disability.

### 488/888. Linguistic Needs of Bilingual and Culturally Different Students (3 cr) Prereq: SLPA 250 and 251 or permission.

Theoretical and applied information about situational factors which have an impact on spoken and written language; addresses how individual differences due to gender, handicapping conditions, socio-economic status, and cultural-ethnic background contribute to diversity in communication patterns and often act as a barrier to successful interactions in learning and social settings.

### 490. Workshop Seminar (1-12 cr, max 12)

### 496/896. Readings and Research in Speech-Language Pathology and Audiology (1-3 cr) Prereq: Permission.

### 497. Practicum in Speech, Language, and Hearing Disorders (1 cr) Prereq: SLPA 397A.

### 499H. Honors Thesis (3 cr) Prereq: Good standing in the University Honors Program or by invitation.

Conduct a scholarly research project and write a University Honors Program or undergraduate thesis.

### \*851. Clinical Phonology: Assessment and Management (3 cr) Prereq: SLPA 250 and 464 or permission.

### \*853. Neurological Foundations of Speech and Language (3 cr)

### 854. Research Methodology in Speech-Language Pathology and Audiology (3 cr) Prereq: Graduate standing.

### \*862. Language Disorders in School-Age Populations (5 cr)

### \*865. Voice Disorders (3 cr) Prereq: SLPA 455.

### \*870. Clinical Processes (2 cr) Prereq: SLPA 469 and/or clinical practicum.

### 880. Medical Aspects of Audiology: Conductive (3 cr)

### 881. Medical Aspects of Audiology: Sensorineural (3 cr) Prereq: SLPA 880.

### 883. Language Pathology (3 cr)

### \*884. Speech and Language Development of the Hearing Impaired (3 cr)

### \*885. Fluency Disorders (3 cr)

### 886. Augmentative Communication (2-3 cr)

### \*887. Language and Learning Disorders (3 cr) Prereq: For non-SLPA majors only.

### 888. Linguistic Needs of Bilingual and Culturally Different Students (3 cr) Prereq: SLPA 250 and 251 or permission.

### 890. Workshop Seminar (1-12 cr, max 12)

### 893. Workshop Seminar (1-12 cr, max 12)

### 896. Readings and Research in Speech Pathology and Audiology (1-3 cr) Prereq: Permission.

### \*897. Advanced Practicum (1-3 cr per sem in each area, overall max 6) Prereq: Completion of the undergraduate preprofessional program.

#### A. Audiology

#### B. Speech/Language Pathology

#### C. Differential Diagnosis

#### D. Externship

#### E. Public Schools

#### F. Language-Learning

#### G. Medical Aspects

#### H. Aural Rehabilitation

**898. Special Topics in Speech Pathology and Audiology** (1-24 cr) Prereq: Permission.

**899. Masters Thesis** (6-10 cr)

Refer to the Graduate Bulletin for 900-level courses.

## Agricultural Education (ALEC)

**Department Head: Professor Mark Balschweid**

For complete course descriptions, see "Agricultural Education" on page 53 in the College of Agricultural Sciences and Natural Resources.

**101. Mechanical Drafting** (TEAC 101) (3 cr) Lec, lab.

(ACE 2) [ES][IS] **102. Interpersonal Skills for Leadership** (3 cr I, II) Lec. Open to freshmen and sophomores only.

**103. Computer-Aided Drafting** (TEAC 103) (3 cr) Lec, lab. Prereq: TEAC 102.

**104. Wood Technology** (TEAC 104) (3 cr) Lec 3, lab 3.

**109. Industrial Metals and Plastics Materials Processing** (TEAC 109) (3 cr) Lec, lab.

**122. Architectural Drafting** (TEAC 102) (3 cr) Lec 3. Prereq: TEAC 101.

**134. Agricultural Education, Journalism, and Leadership Careers** (2 cr I) Course has guest speakers and field trips.

**135. Early Field Experience in Agricultural Leadership, Education and Communication** (1 cr II) Prereq: Agricultural leadership, education and communication major or permission. Required of all agricultural leadership, education and communication majors.

[ES][IS] **189H. University Honors Seminar** (3 cr) Prereq: Good standing in the University Honors Program or by invitation. University Honors Seminar 189H is required of all students in the University Honors Program.

[ES] **201. Electricity/Electronics** (TEAC 201) (3 cr) Lec 3.

[ES][IS] **202. Leadership Development in Small Groups and Teams** (3 cr I, II) Lec, act.

**203. Automotive Technology** (TEAC 203) (3 cr) Lec, lab.

**204. Machine Tool Technology** (TEAC 204) (3 cr) Lec, lab. Prereq: TEAC/ALEC 109.

**205. Welding Technology** (TEAC 205) (3 cr) Lec, lab.

[S] **207. Communicating to Public Audiences** (ADVT 207) (3 cr II) Lec 3. Prereq: Completion of the College of Agricultural Sciences and Natural Resources (CASNR): completion of all CASNR core communications course requirements. College of Journalism and Mass Communications: 2.75 GPA; JOUR 102.

**234. Planning Leadership and Experience Programs** (3 cr II) Lec 2, lab 3. Prereq: Sophomore standing and ALEC 134 and/or 135.

**242. Construction Technology** (TEAC 242) (3 cr) Lec, lab. Prereq: TEAC/ALEC 104.

**243. Production Processes of the Wood Industry** (TEAC 243) (3 cr) Lec, lab. Prereq: TEAC/ALEC 104.

[ES][IS] **246. Modern Industries** (TEAC 246) (3 cr) Lec 3.

**301. Industrial Graphics** (TEAC 301) (3 cr) Lec, lab.

[ES][IS] **302. Dynamics of Effective Leadership in Organizations** (3 cr I, II) Prereq: ALEC 202.

**303. Energy, Power and Transportation Technology** (TEAC 303) (3 cr II) Lec, lab. Prereq: TEAC/ALEC 101, 109, 203, 204, and 205. TEAC/ALEC 303 is a synthesis of skill-based courses for Industrial Technology Education (ITE) majors.

**305. Presentation Strategies for Agricultural Audiences** (3 cr I, II) Lec, act. Prereq: JGEN 200 or 300. Student presentations integral to the course.

**308. Laboratory Instruction and Management** (3 cr II) Lec, act. Prereq: 6 hrs mechanized systems management; advanced standing. Student demonstrations and presentations required.

**327. Introduction to Human Relations in Education** (EDPS 327) (3 cr) Lec.

**330. Foundations of Cooperative Extension** (3 cr I) Lec. Prereq: Junior standing. Credit toward the degree may be earned in only one of: ALEC 233 or ALEC 330.

**331. Supervised Field Experiences** (2-5 cr I, II, III) Lab. Prereq: Junior or senior by application.

**337. Instructional Internship in Leadership Development** (1-3 cr I, II, III) Act 3. Prereq: Permission.

**340. Advanced Machine Woodworking** (TEAC 340) (3 cr) Lec, lab. Prereq: TEAC/ALEC 243. TEAC/ALEC 340 is a continuation of TEAC/ALEC 243.

**346. Advanced Modern Industries** (TEAC 346) (3 cr) Lec, lab. Prereq: TEAC/ALEC 101, 204, 210, and 246.

[ES][IS] **388. Ethics in Agriculture and Natural Resources** (AECN 388) (3 cr II)

**390. Industrial Experience** (TEAC 390) (1-6 cr, max 6) Fld. Prereq: Permission.

**397. Special Topics** (1-3 cr, max 3 cr I, II) Lec. Prereq: Permission.

**399. Independent Study in Communications** (1-3 cr) Prereq: Permission and advance approval of plan of work.

**400/800. Overview to Program Planning** (3 cr II) Lec 3. Prereq: ALEC 305 or ALEC/TEAC 805/NUTR 806. ALEC 400/800 is designed for individuals interested in developing and/or improving program planning skills.

[IS] **405. Methods of Instruction for Secondary Agriscience Education** (3 cr I) Prereq: Senior standing and 3 hrs educational psychology, or permission.

**405L. Methods of Instruction Laboratory Education** (1 cr) Prereq: Admission to the teaching program in agricultural education and parallel registration in ALEC 405.

**407/807. Supervisory Leadership** (CYAF \*807) (3 cr) Lec 3. Prereq: ALEC 302.

[ES][IS] **410/810. Environmental Leadership** (NRES 413/813) (3 cr) Lec.

**412/812. Multimedia Applications for Education and Training** (NUTR \*812) (3 cr) Lec, lab.

**413. Program Development** (3 cr) Lec, rct. Prereq: Junior standing and acceptance into the student teaching program in agricultural education.

[ES][IS] **414/814. Classic Figures in Leadership** (3 cr) Lec, rct. Prereq: Junior standing. Requires extensive writing and oral presentations.

[IS] **417. Issues Management and Crisis Communications in Agriculture** (ADVT 417) (3 cr I) Lec 3. Prereq: Junior standing. College of Journalism and Mass Communications: Junior standing; 2.75 GPA; ADVT 283; JOUR 102.

**420/820. Improvement of Instructional Programs for Post-High-School Occupational Education** (1-3 cr)

[IS] **428. Leadership in Public Organizations** (NRES 428/828) (3 cr II) Lec 3. Prereq: Junior standing.

**\*431. Student Teaching** (3-12 cr) Prereq: 3 hrs educational psychology, passing score on the Preprofessional Skills Tests (PPST) and permission. Placement arranged by the department.

[IS] **466/866. Leadership and Diversity in Organizations and Communities** (3 cr) Lec 3.

[IS] **477/877. Leadership and Motivation** (3 cr) Lec 3.

[IS] **480. Dynamics of Agricultural Environmental Journalism** (3 cr II) Prereq: Junior standing.

[IS] **488/888. Leadership, Power and Influence** (3 cr) Lec 3.

**494. Undergraduate Seminar in Agricultural Education** (1-3 cr)

**495A. Internship in Leadership Development**<sup>1</sup> (2-5 cr, max 5 I, II, III) Fld. Prereq: Junior standing; ALEC 302; agricultural education major; and permission. Agricultural education majors must take ALEC 495A for Pass/No Pass.

**495B. Internship in Agricultural Journalism** (3 cr) Fld. Prereq: Junior standing; ALEC 302; agricultural journalism major; and permission. ALEC 495B is taken the second semester of the junior year or in the summer following the junior year. Department approval is required. ALEC 495B cannot be taken Pass/No Pass.

**496/896. Independent Study in Leadership Education** (1-9 cr, max 9) Prereq: Permission.

**499H. Honors Thesis** (3-6 cr I, II, III) Prereq: Admission to the University Honors Program and permission, AGRI 299H recommended.

**801. Theoretical Foundations of Leadership** (3 cr) Lec.

**802. Developing Leadership Capacity in Organizations and Communities** (3 cr) Prereq: ALEC 801 or equivalent.

**804. Problems of Beginning Agriscience Teachers** (2-5 cr II) Lec/act.

**805. Advanced Teaching Strategies** (TEAC 805) (1-3 cr) Lec/act.

**806. Introduction to Distance Education** (3 cr, I) Lec.

**815. Development and Organization of Vocational Education** (1-3 cr) Lec.

**816. Management Strategies in Distance Education Environments** (3 cr II, III) Lec.

**826. Program Evaluation in Vocational and Adult Education and Training** (3 cr)

**845. Research in Occupational Education** (CYAF 845) (1-3 cr II, III) Lec.

**890. Workshop Seminars** (1-12 cr I, II, III)

**893. Technical Agricultural Workshops** (1-12 cr I, II, III) Prereq: Permission.

**897. Special Topics** (1-3 cr I, II) Lec. Fld.

**899. Masters Thesis** (6-10 cr)

Refer to the Graduate Bulletin for 900-level courses.

## Areas of Study in Human Sciences

### Areas of Study

The College offers programs leading to a bachelor of science in education and human sciences in the following areas:

## Child, Youth and Family Studies

Inclusive Early Childhood Education: Birth to Grade 3  
 Child Development/Early Childhood Education\*  
 Family and Consumer Sciences Education\*  
 Child, Youth and Family Studies and Journalism and Mass Communications\*  
 Family Science\*  
 \*Available at UNO.

## Nutritional Science and Dietetics

Athletic Training  
 Culinary Science (Culinology®)  
 Dietetics  
 Dietetics/Journalism and Mass Communications  
 Nutrition, Exercise and Health Science  
 Nutrition Science  
 Hospitality, Restaurant and Tourism Management

## Textiles, Clothing and Design

Merchandising\*  
 Textile and Apparel Design  
 Textile Science\*\*  
 Textiles, Clothing and Design/Journalism and Mass Communications

\* Minor in marketing from College of Business Administration  
 \*\* Minor in chemistry

These undergraduate programs provide students with an educational background for positions in a variety of government, business, community service, health care, and educational employment settings.

## Minors

### International Studies Minor

The College of Education and Human Sciences offers a minor in international studies to students in the human sciences.

### Human Sciences International Minor

- 18 Hour International Studies Minor
- HUMS 465 International Perspectives of Human Resources and Family Sciences (3 cr)  
 TXCD 123 Clothing and Human Behavior or  
 NUTR 253 Cultural Aspects of Food and Nutrition or CYAF 495 Special Topics in Family and Cultural Diversity (Diversity) (3 cr)  
 Maximum of 9 credits from one department or program  
 Applicable courses from College of Arts and Sciences International Studies Thematic Specialization List (1. Power and Production; 2. International Relations; 3. Cultural Encounters) (See page 187.)  
 Minimum of 3 hours of preapproved International or Cultural Experience (HUMS 490)  
 Minimum of 6 credits at or above the 300 level

- 12 Hour International Studies Minor

HUMS 465 International Perspectives of Human Resources and Family Sciences (3 cr)  
 TXCD 123 Clothing and Human Behavior or  
 NUTR 253 Cultural Aspects of Food and Nutrition or CYAF 495 Special Topics in Family and Cultural Diversity (Diversity) (3 cr)

Applicable courses from College of Arts and Sciences International Studies Thematic Specialization List (1. Power and Production; 2. International Relations; 3. Cultural Encounters) (See page 187.)  
 Minimum of 9 credits at or above the 300 level

## Hospitality Management Minor

The hospitality management minor is for students in CASNR and CEHS Human Sciences (Child, Youth and Family; Nutrition and Health Science; Textile, Clothing and Design) Departments.

### Required 9 hours:

HRTM 171 Intro to Hospitality, Restaurant & Tourism Management (3 hrs)  
 HRTM 285 Intro to Lodging (3 hrs)  
 HRTM 289 Intro to the Event Industry (3 hrs)

### Select 9 hours from:

HRTM 280 Intro to Tourism (3 hrs)  
 HRTM 373 Catering (3 hrs)  
 HRTM 374 Guest Services Management (3 hrs)  
 HRTM 474 Food & Beverage Management (3 hrs)  
 HRTM 478 Tourism Resources & Development (3 hrs)  
 HRTM 479 Hospitality Industry Perspectives (3 hrs)  
 HRTM 485 Advanced Lodging Operations (3 hrs)  
 HRTM 489 Convention & Meeting Planning (3 hrs)  
 NUTR 471 Vines, Wine & You (3 hrs)

## Minors in Other Colleges

An undergraduate student with a major in human sciences who wants a minor in another college should consult with their College of Education and Human Sciences adviser and prepare the list of approved courses desired for the minor.

**Arts and Sciences.** Prepare the list of courses required for either Plan A or Plan B in the chosen minor as indicated in the College of Arts and Sciences section of this bulletin. Plan A indicates a single minor; Plan B indicates two minors with fewer hours in each subject than the number required for a single minor.

Complete a Change of Major/Adviser (CDMA) form in the Student Services Center, 105 Henzluk.

**General Agriculture.** Students in human sciences may obtain a minor in general agriculture by satisfactorily completing a minimum of 18 credit hours of work in courses offered by the College of Agricultural Sciences and Natural Resources (CASNR).

More specific details about general areas and courses are given in the CASNR section of this bulletin. The specific minor program must be prepared in consultation with the CASNR Dean's office, room 103 Agriculture Hall.

## Achievement-Centered Education (ACE)

All UNL students who are following the 2009-10 bulletin will be required to complete a minimum of 3 hours of approved course work in each of the 10 designated ACE Student Learning Outcome (SLO) areas which are described on page 17 of this bulletin. **It is highly recommended that students contact their adviser prior to registering for ACE**

classes in order to insure that each of the class selections are in the best interest of the students' academic program.

## Graduate Study in Human Sciences

Study beyond the undergraduate level may be required for those seeking technical or professional positions. The College offers opportunities to those who want to earn advanced degrees in the Graduate College.

Graduate education that develops professional competence of students combined with a strong sense of social responsibility continues to be the aim of the graduate faculty.

Graduate study leading to the masters degree is offered in the departments of child, youth and family studies; nutrition and health science; and textiles, clothing and design.

For the doctor of philosophy degree, courses of study in human sciences leading to the doctoral degree are offered through the College of Education and Human Sciences. Specific programs are designed to meet the needs and interests of individual students as directed by the supervisory committee.

For students interested primarily in a career in nutrition research, the interdepartmental area of nutrition provides work leading to the degrees of master of science and doctor of philosophy. For further information on these advanced degree programs see the *Graduate Studies Bulletin*.

**Acceptance of Senior Credits.** Seniors who have advanced approval of the Dean of Graduate Studies may receive up to 12 hours credit for graduate courses taken in addition to the courses necessary to complete their undergraduate course work, provided that such credits are earned within the calendar year prior to receipt of the baccalaureate.

Seniors needing not more than 9 hours of undergraduate credit to complete the bachelors degree, and wishing to register for graduate credit, may be granted provisional admission to the Graduate College subject to receiving their baccalaureate within one calendar year.

## Residency Requirement

**Credit Hours and Grade Point Average.** A minimum of 120 semester hours of applicable credit is required to earn the bachelor of science degree in education and human sciences. Some programs may require more than 120 credit hours. In addition, a minimum 2.0 cumulative GPA is required to graduate. Students in family and consumer sciences education must have a minimum 2.5 GPA. No more than 95 hours of credit from another four year college or university can be applied toward a degree in human sciences.

### Residency Requirements and Correspondence Courses.

At least 30 of the last 36 hours of credit needed for a degree must be registered for and completed in residence at a University of Nebraska system institution. This means that the last year of work must generally be spent at UNL. Half of the credit needed to graduate can be earned by means of correspondence courses; however, such credit does not count toward residence and thus cannot be among the last 30 credit hours earned.

## Deficiency Removal

Students who are admitted through the Admission by Review process with core course deficiencies will have certain conditions attached to their enrollment at UNL. These conditions are explained under "Removal of Deficiencies" on page 6.

The Dean of the College of Education and Human Sciences will make the final decision concerning any problems or questions that may arise in satisfying requirements to remove deficiencies.

For University policy, see "Graduation Requirements" on page 16.

**Course Exclusions and Restrictions.** MATH 95C, MATH 100A, CSCE 137 and courses taken to remove high school deficiencies may not be applied toward graduation requirements, not even as elective credit.

## Human Sciences Acceptance of University of Nebraska System Grades

### Grades earned at UNL, UNO, UNK

Grades of D-, D, D+, C- satisfy requirements of the programs in human sciences unless specified otherwise under the Programs and Departments section of the bulletin. Students who receive a grade of D-, D, D+, or C-, however, are encouraged to retake the course, particularly if it is in the major area.

### Grades Earned Outside UN System

Up to 9 hours of grades below C (C-, D+, D, D-) from other academic institutions can only be applied to general education requirements and elective classes.

### Policy for Pass/No Pass Courses

The Pass/No Pass (P/N) option is designed for students who want to study **elective** areas or topics when they may have minimum preparation. If used for this purpose, the option can enrich the student's academic experience without lowering the student's grade point average. Free electives may be taken P/N. Students can earn no more than 12 hours of pass credit excluding courses offered on Pass/No Pass only basis.

Not all classes can be taken under the Pass/No Pass option. **All courses, specified by course and number, must be taken for a grade.** Should a student have earned a P in one of the courses prior to starting the option, the P will be reviewed by the appropriate department.

## Programs and Departments in Human Sciences

All course and programs of study are offered through one of the three departments with a few exceptions. The honors program is coordinated through the Office of the Dean. In addition, the following courses are offered by the College and are listed in the *Schedule of Classes* under human sciences or online at [www.unl.edu](http://www.unl.edu).

## Courses of Instruction (HUMS)

[ES] 465. International Perspectives of Human Resources and Family Sciences (3 cr) (UNL) Lec 3.  
Cross-cultural interdisciplinary perspectives of human sciences.

490. International Study in Human Resources and Family Sciences (1-15 cr, max 15) Prereq: Permission.  
Individualized or group international study to broaden perspectives and increase knowledge about other cultures.

## Department of Child, Youth and Family Studies

**Chair:** Professor Julie M. Johnson

**Professors:** Abbott, DeFrain, Edwards, Johnson, Kostelnik, Raikes, Zeece

**Associate Professors:** Bischoff, Churchill, Dalla, Prochaska-Cue, Torquati, Xia

**Assistant Professors:** deGuzman, Hollist, Hong, Huddleston-Casas, Reisbig, Springer

**Assistant Professor of Practice:** Rupiper

**Lecturers:** Gabriel, Jones-Branch, Leeper Miller

Child, Youth and Family Studies offers undergraduate options that prepare students to work with individuals and families in formal and informal settings in government, business, education, and social service agencies. Students can select among several options: Early Care and Education: Birth to Age 5 (pending approval by the Nebraska Department of Education); Child Development/Early Childhood Education (working with young children); Family Science (working with children and families); Family and Consumer Sciences Education (working with adolescents in formal educational settings); Inclusive Early Childhood Education: Birth to Grade 3 (working with young children in an educational setting); and Child, Youth and Family Studies/Journalism and Mass Communications (working in advertising, news-editorial, or broadcasting). The department is home to three teaching/research laboratories: the Ruth Staples Child Development Laboratory, the Child Development Research Laboratory, and the Family Resource Center.

**Graduate Study.** Advanced degrees of master of science in child, youth and family studies. In child, youth and family studies, four specializations are available: marriage and family therapy, family financial planning, youth development, and family and consumer science education. Family financial planning, youth development, and family and consumer science education are interinstitutional distance education degrees. Certificates in family financial planning, youth development, and medical family therapy are also available. Students can also emphasize in child development/early childhood education, family and consumer science education, and family science in the child, youth and family studies masters degree. For details, see the *Graduate Studies Bulletin*.

Students who enroll for graduate credit in courses cross-listed with undergraduate courses must complete course requirements beyond those expected of students enrolling for undergraduate credit. These requirements will be established by the instructor and will include, but will not be limited to, more demanding criteria for evaluation, additional research projects, readings, and papers.

Other requirements may be enumerated.

## Minors

### Child, Youth and Family Studies (18 hrs)

CYAF 160, 280, and four courses in the Department, two of which must be at the 300 level or above.

## Procedures On Dropout-From and Transfer-Into Options

**Dropout-From Option.** Department majors who drop out for five successive academic years, or more, and later choose to reenter in their respective option or into another option in the department will be expected to meet the graduation requirements in effect at the time of reenrollment.

**Transfer-Into Option.** Students transferring into Child, Youth and Family Studies from another institution or from another department within the University or College will complete the graduation and/or certification requirements in effect at the time of transfer into the option.

## Child, Youth and Family Studies

There are six options available in the department. Three options are directed toward employment in human service agencies, nonprofit agencies, business, or media. Three additional options are directed toward obtaining teaching endorsements resulting in teacher certification/licensure in Nebraska.

### Options Directed Toward Employment in Human Service Agencies, Nonprofit Agencies, Business, or Media

1. Child Development/Early Childhood Education
2. Child, Youth and Family Studies/Journalism and Mass Communications
3. Family Science

### Options Directed Toward Teaching in Public or Private Schools

4. Early Care and Education: Birth to Age 5 (*pending approval*)
5. Family and Consumer Sciences Education
6. Inclusive Early Childhood Education: Birth to Grade 3 (IECE)

### Options Directed Toward Employment in Human Service Agencies, Nonprofit Agencies, Business, or Media

#### 1. Child Development/Early Childhood Education

The Child Development/Early Childhood Education option provides comprehensive programs in child development theory, research, professional practice and application. Studies lead to qualifications for a variety of child-oriented professions including teaching in early childhood settings, child development program management, other child service professions or preparation for graduate school in a related area. This program offers a strong foundation for varied graduate studies.

	Hours
<b>Achievement-Centered Education.....</b>	<b>27-28</b>
ACE 1: Written Texts Incorporating Research & Knowledge Skills Select from: ENGL 150, 151, 254; JOUR 102 .....	3
ACE 2: Communication Skills Select from: ALEC 102; COMM 109, 210, 283.....	3
ACE 3: Mathematical, Computational, Statistical or Formal Reasoning Skills Select from: MATH 104, 106, 203, 208; SOCI 206; STAT 218; EDPS 495.....	3
ACE 4: Study of Scientific Methods & Knowledge of the Natural & Physical World Select from: ENTO 115; NRES 108; METR 140, 200; ANTH 242; BIOS 102; CHEM 105; GEOG 100, 103, 115, 155; TXCD 206 .....	3-4
ACE 5: Study of Humanities Select one course.....	3
ACE 6: Study of Social Sciences CEHS 200 Families, Schools & Communities .....	3
ACE 7: Study of the Arts to Understand Their Context & Significance Select one course.....	3
ACE 8: Ethical Principles, Civics & Stewardship & their Importance to Society Select one course.....	3
ACE 9: Global Awareness of Knowledge of Human Diversity through Analysis of an Issue CEHS 495 Special Topics in Family & Cultural Diversity .....	3
ACE 10: Integration of Abilities & Capacities in a Creative or Scholarly Product .....	0 (Hours met with CYAF 497A in Professional Core)
<b>Child, Youth and Family Studies Professional Core.....</b>	<b>34</b>
CYAF 160 Human Development & The Family .....	3
CYAF 222 Family Financial Management .....	3
CYAF 271 Infancy.....	3
CYAF 271L Infancy Practicum .....	1
CYAF 333 Families in the Economy.....	3
CYAF 380 Working with Parents, Schools, & Communities.....	3
CYAF 382 Parenting.....	3
CYAF 488 Child & Family Policy .....	3
CYAF 495 Special Topics in Family & Cultural Diversity (hours met in ACE) .....	0
CYAF 497A Student Teaching in Early Childhood .....	12
CEHS 200 Families, Schools & Communities (hours met in ACE) .....	0
<b>Child Development/Early Childhood Education</b>	
<b>Career Paths .....</b>	<b>25-28</b>
Select either A or B:	
A. Child Development Program Management.....	28
CYAF 170 Intro to Early Care & Education .....	3
CYAF 270 Development of the Preschool Child .....	2
CYAF 270L Development of the Preschool Child Lab.....	1
CYAF 374 Curriculum Planning in Early Childhood Education.....	3
CYAF 374L Curriculum Planning in Early Childhood Education Lab .....	1
CYAF 474 Assessment in Early Childhood .....	3
CYAF 477 Administration of Early Childhood Education Programs.....	3
<b>Atypical Development</b>	
Select from: PSYC 380; SPED 201, 303, 400, 480; EDPS 469; SLPA 150 .....	3
NUTR 100 Nutrition, Exercise & Health .....	3
Select from: EDAD 421; ALEC 202, 302 .....	3
Select from: ACCT 202, ECON 210; MNGT 121, 320, 321; ENTR 291 .....	3
B. Child Development Research.....	25-28
CYAF 170 Intro to Early Care & Education .....	3
CYAF 270 Development of the Preschool Child .....	2
CYAF 270L Development of the Preschool Child Lab.....	1
CYAF 374 Curriculum Planning in Early Childhood Education.....	3
CYAF 374L Curriculum Planning in Early Childhood Education Lab .....	1
CYAF 474 Assessment in Early Childhood .....	3
<b>Atypical Development</b>	
Select from: PSYC 380; SPED 201, 303, 400, 480; EDPS 469; SLPA 150 .....	3
PSYC 350 & 450 or SOCI 205 & 206.....	6

CYAF 498 Research Experiences in Child, Youth & Family Studies.....	3-6
<b>Electives.....</b>	<b>30-34</b>
<b>Total.....</b>	<b>120</b>

## 2. Child, Youth and Family Studies / Journalism and Mass Communications

This option is a joint program between the Department of Child, Youth and Family Studies and the College of Journalism and Mass Communications. The student combines a broad background in child, youth and family studies with *one* area of journalism (advertising, broadcasting news, broadcasting production, news editorial) of the student's choice. Career opportunities may include production, editing, reporting, photography, advertising, and sales.

### Grades Earned

Grades of D+ or less in journalism courses and in 300/400-level professional requirement courses in child, youth and family studies will not be accepted. Course will need to be repeated before enrolling in another course in journalism.

The minimum credit hours required for graduation is to be met as follows.

	Hours
<b>Achievement-Centered Education.....</b>	<b>31</b>
ACE 1: Written Texts Incorporating Research & Knowledge Skills Select from: ENGL 101, 101H, 150, 150H, 151, 151H, 254; JGEN 120, 200, 220, 300 .....	3
ACE 2: Communication Skills Select from: COMM 109, 209, 210, 286 .....	3
ACE 3: Mathematical, Computational, Statistical or Formal Reasoning Skills Select from: EDPS 459; MATH 203; ECON 215; STAT 218 .....	3
ACE 4: Study of Scientific Methods & Knowledge of the Natural & Physical World Select one course with a lab .....	4
ACE 5: Study of Humanities Select one course.....	3
ACE 6: Study of Social Sciences Select one course.....	3
ACE 7: Study of the Arts to Understand Their Context & Significance Select one course.....	3
ACE 8: Ethical Principles, Civics & Stewardship & their Importance to Society Select one course.....	3
ACE 9: Global Awareness of Knowledge of Human Diversity through Analysis of an Issue Select one course.....	3
ACE 10: Integration of Abilities & Capacities in a Creative or Scholarly Product CYAF 497D Community Internships in CYAF (when approved) .....	3
<b>Professional Core Requirements .....</b>	<b>28</b>
LIBR 110 Intro to Library Research.....	1
CEHS 200 Families, Schools & Communities .....	3
CYAF 160 Human Development & The Family .....	3
CYAF 222 Family Financial Management .....	3
CYAF 280 Family Science .....	3
CYAF 285 Dating & Couple Relationships or CYAF 382 Parenting .....	3
CYAF 380 Working with Families in Communities & Schools or CYAF 3810 (UNO) .....	3
CYAF 488 Child & Family Policy .....	3
CYAF 495 Special Topics in Family & Cultural Diversity or any ethnic studies course .....	3
CYAF 497D Community Internships in CYAF (hours met in ACE) .....	0
Human Development .....	3
Select from: CYAF 270 & 270L, 271 & 271L, 372, 462; GERO 200, 307, 446, 447, 448; EDPS 250, 251, 450, 451; PSYC 446, 489 .....	3

## Child, Youth and Family Studies Supporting Courses.....

CYAF 333 Families in the Economy.....	3
CYAF 446 Addiction & Violence in Families or CYAF 451 Families & Stress.....	3
CYAF 471 Human Sexuality .....	3
Atypical Development .....	3
Select from: PSYC 380; SPED 201, 303, 400, 480; SLPA 150 .....	3
CYAF 322 Advanced Family Finance .....	3
CYAF 493 Special Topics .....	3
ADVT 357 Strategic Communications Research & Strategy or PSYC 350 Research Methods & Data Analysis or SOCI 205 Intro to Social Research or CRIM 251 Research Methods .....	3

## Additional Courses from the College of Journalism ..35

Select one of the following Journalism and Mass Communications Emphasis Areas.

Advertising Emphasis .....	35
ADVT 251 Principles of Strategic Communications .....	3
ADVT 283 Writing for Strategic Communications .....	3
ADVT 333 Strategic Communications Graphics .....	3
ADVT 357 Strategic Communications Research & Strategy/Research .....	3
ADVT 460 Media Planning & Strategy .....	3
ADVT 489 Advertising & Public Relations Campaigns .....	3
JOUR 101 Principles of Mass Media .....	3
JOUR 142 Visual & Aural Literacy .....	2
JOUR 486 Mass Media Law .....	3
JOUR 487 Mass Media & Society .....	3
Journalism electives .....	6
Broadcasting News Emphasis .....	35
BRDC 369 News Videography .....	3
BRDC 370 Broadcast News Writing .....	3
BRDC 372 Advanced Reporting for Broadcasting .....	3
JOUR 101 Principles of Mass Media .....	3
JOUR 142 Visual & Aural Literacy .....	2
JOUR 162 Visual & Aural Literacy II .....	3
JOUR 350 NewsNetNebraska .....	3
JOUR 486 Mass Media Law .....	3
JOUR 487 Mass Media & Society .....	3
NEWS 202 Beginning Reporting .....	3
Journalism electives .....	6
Broadcasting Production Emphasis .....	35
BRDC 227 Principles of Audio Production .....	3
BRDC 228 Television Production .....	3
BRDC 359 Cinematography-Videography .....	3
BRDC 360 Broadcast Writing .....	3
BRDC 362 Advanced Production .....	3
JOUR 101 Principles of Mass Media .....	3
JOUR 142 Visual & Aural Literacy .....	2
JOUR 162 Visual & Aural Literacy II .....	3
JOUR 486 Mass Media Law .....	3
JOUR 487 Mass Media & Society .....	3
Journalism electives .....	6
News-Editorial Emphasis .....	35
JOUR 101 Principles of Mass Media .....	3
JOUR 142 Visual & Aural Literacy .....	2
JOUR 162 Visual & Aural Literacy II .....	3
JOUR 350 NewsNetNebraska .....	3
JOUR 486 Mass Media Law .....	3
JOUR 487 Mass Media & Society .....	3
NEWS 201 Principles of Editing .....	3
NEWS 202 Beginning Reporting .....	3
NEWS 302 Beat Reporting .....	3
Select one of the following:	
NEWS 303 Advanced Editing (3 cr)	
NEWS 404 Digital News Photography (3 cr)	
A 400-level reporting course in NEWS sequence (NEWS 401, 498, or JOUR 444) (3 cr)	
News electives .....	6
<b>Elective.....</b>	<b>2</b>
<b>Total.....</b>	<b>120</b>

## 3. Family Science

The career path for Family Science (working with children and families) provides a comprehensive program grounded in family science theory, research, and professional practice and

application. The distinct feature of this career path is that it provides students with knowledge and intervention skills that will assist them in helping to prevent and remedy interpersonal problems experienced by individuals in their family relationships, building on the family's strengths. In addition, this career path will prepare students for graduate school (e.g. family science, family therapy, social work, counseling psychology, law), or for employment in human services agencies or programs. Students are prepared to work in human service agencies or nonprofit agencies serving individuals and families. Students selecting several courses in the economic and family finance content area are prepared to advise in the areas of consumer credit and financial management. These courses may make them eligible to take the Accredited Financial Counselors examinations.

Hours

**Achievement-Centered Education.....31**

ACE 1: Written Texts Incorporating Research & Knowledge Skills

*Select from: ENGL 101, 101H, 150, 150H, 151, 151H, 254; JGEN 120, 200, 220, 300 .....* 3

ACE 2: Communication Skills

*Select from: COMM 109, 209, 210, 286.....* 3

ACE 3: Mathematical, Computational, Statistical or Formal Reasoning Skills

*Select from: EDPS 459; MATH 203; ECON 215; STAT 218 .....* 3

ACE 4: Study of Scientific Methods & Knowledge of the Natural & Physical World

*Select one course with a lab .....* 4

ACE 5: Study of Humanities

*Select one course.....* 3

ACE 6: Study of Social Sciences

CEHS 200 Families, Schools & Communities..... 3

ACE 7: Study of the Arts to Understand Their Context & Significance

*Select one course.....* 3

ACE 8: Ethical Principles, Civics & Stewardship & their Importance to Society

*Select one course.....* 3

ACE 9: Global Awareness of Knowledge of Human Diversity through Analysis of an Issue

*Select one course.....* 3

ACE 10: Integration of Abilities & Capacities in a Creative or Scholarly Product

CYAF 497D Community Internships in CYAF

*(when approved).....* 3

**Professional Core Requirements.....25**

LIBR 110 Intro to Library Research..... 1

CEHS 200 Families, Schools & Communities..... 3

CYAF 160 Human Development & The Family

*(hours met in ACE).....* 0

CYAF 222 Family Financial Management .....

3

CYAF 280 Family Science..... 3

CYAF 285 Dating & Couple Relationships or CYAF

382 Parenting..... 3

CYAF 380 Working with Families in Communities & Schools or CYAF 3810 (UNO)..... 3

CYAF 488 Child & Family Policy..... 3

CYAF 495 Special Topics in Family & Cultural

Diversity or any ethnic studies course .....

3

CYAF 497D Community Internships in CYAF

*(hours met in ACE).....* 0

Human Development..... 3

*Select from: CYAF 270 & 270L, 271 & 271L, 372,*

*462; GERO 200, 307, 446, 447, 448; EDPS 250,*

*251, 450, 451; PSYC 446, 489*

**Family Science Career Paths.....18-21**

*Courses that fulfill the requirements of other categories may not be counted for these credits.*

*Select either A or B:*

A. Human and Community Services .....

18

CYAF 333 Families in the Economy..... 3

CYAF 446 Addiction & Violence in Families or

CYAF 451 Families & Stress..... 3

CYAF 471 Human Sexuality..... 3

Atypical Development .....

*Select from: PSYC 380; SPED 201, 303, 400,*

*480; SLPA 150*

Educational Programming/Learning.....	3
<i>Select from: CYAF 416; ALEC 433; EDAD 421, 422; EDPS 362</i>	
CYAF Electives.....	3
<i>Select from: CYAF 285, 322, 382, 446, 458, 493; or any other CYAF course not previously required</i>	
B. Family Science Research (Requires 3.0 GPA) .....	21
CYAF 333 Families in the Economy.....	3
CYAF 446 Addiction & Violence in Families or	
CYAF 458 Families & Stress .....	3
CYAF 471 Human Sexuality .....	3
Atypical Development .....	3
<i>Select from: PSYC 380; SPED 201, 303, 400, 480; SLPA 150</i>	
Research.....	6
<i>Select one two-course sequence from: PSYC 350 &amp; 450 or SOCI 205 &amp; 206</i>	
CYAF 498A Research Experience in CYAF.....	3
<b>Minor or Area of Concentration.....18</b>	
Electives.....	25-28
<b>Total .....</b>	<b>120</b>

**Options Directed Toward Teaching in Public or Private Schools**

Students in these options have special requirements, standards and procedures that must be followed. These include faculty review, attention to communications, personal-social adjustments, moral character and safety, and regulations regarding felony or misdemeanor convictions.

**Review by Faculty**

Every student will be reviewed by the faculty at the end of each semester. Basic skills test scores, GPA, communication skills, and personal-social adjustment will be considered in this review. Students will need faculty recommendations in order to enter the student teaching semester.

**Communications**

Students with disabilities will be helped to develop professional practices in order to ensure effectiveness in their classrooms.

**Personal-Social Adjustment**

Where the faculty in Family and Consumer Sciences Education has reason to feel there is instability in the student's personal-social behavior, the student may be asked to conference with a counselor to determine the degree to which the student can be expected to adjust to the school and classroom environment.

**Moral Character and Safety**

Teaching requires candidates to be individuals of integrity. Prospective teachers must be able to demonstrate they have strong moral character and can make mature decisions. Individuals must show a high degree of moral character and must act responsibly, representing our College and University. Should the College discover behavior, which in its reasonable judgement establishes on the part of the candidate a lack of integrity, questionable moral/ethical character, or otherwise indicates a potential of risk to young persons and others in the educational community, the CYAF Department reserves the right to deny entry to or dismiss anyone from the program leading to certification. These kinds of behaviors shall be adequate foundation to deny any candidate or potential candidate from participation in any

practicum, student teaching or other field experience.

**Felony or Misdemeanor Convictions**

The Nebraska Department of Education policy requires that a person with a felony or misdemeanor conviction involving abuse, neglect, or sexual misconduct shall not be allowed to participate in pre-student teaching laboratory or classroom experiences or student teach without approval by the Board of Education.

**4. Early Care and Education: Birth to Age 5**

Early Care and Education: Birth to Age 5 prepares students to work with infants and toddlers as an educator. Students are trained to work effectively with families and children from diverse backgrounds. This option combines a background in family science, early childhood education, and special education. The program includes an emphasis on family systems and working with infants, toddlers and families in community contexts.

**Admission to Teacher Education Program: Early Care and Education: Birth to Age 5**

Selection to the teacher education programs is selective and based on the following criteria:

1. Completion of at least 30 credit hours with a minimum 2.5 GPA.
2. Completion of the following courses with a grade of C+ or above: TEAC 331 or CEHS 200; CYAF 271 & 271L or CYAF 270 & 270L; and one course fulfilling SLO 2.
3. Passing scores on the PPST.
4. Completion of application and documentation of practica experiences.

**Admission to Student Teaching: Early Care and Education: Birth to Age 5**

All students who are candidates for a Nebraska Teacher's Certification are required to student teach. Admission to student teaching requires the following:

1. Admission to CYAF Education program.
2. A minimum 2.5 cumulative GPA.
3. A minimum 2.5 GPA in pre-professional and professional education courses and no grade below a C in pre-professional education courses and no grade below a C+ in professional education courses.
4. All pre-professional and professional requirements completed.
5. Completion of a criminal history check that will be conducted by an independent party (lab fee required).

Hours

**Achievement-Centered Education.....27-28**

ACE 1: Written Texts Incorporating Research & Knowledge Skills

*Select from: ENGL 150, 151, 254; JOUR 102 .....* 3

ACE 2: Communication Skills

*Select from: ALEC 102; COMM 109, 210, 283.....* 3

ACE 3: Mathematical, Computational, Statistical or

Formal Reasoning Skills

*Select from: MATH 104, 106, 203, 208; SOCI 206;*

*STAT 218; EDPS 495 .....* 3

ACE 4: Study of Scientific Methods & Knowledge of the Natural & Physical World	
Select from: ENTO 115; NRES 108; METR 140, 200; ANTH 242; BIOS 102; CHEM 105; GEOG 100, 103, 115, 155; TXCD 206	3-4
ACE 5: Study of Humanities	
Select one course	3
ACE 6: Study of Social Sciences	
CEHS 200 Families, Schools & Communities	3
ACE 7: Study of the Arts to Understand Their Context & Significance	
Select one course	3
ACE 8: Ethical Principles, Civics & Stewardship & their Importance to Society	
Select one course	3
ACE 9: Global Awareness of Knowledge of Human Diversity through Analysis of an Issue	
TEAC 330 Multicultural Education	3
ACE 10: Integration of Abilities & Capacities in a Creative or Scholarly Product	
(Hours met with CYAF 497A in Professional Core)	0
<b>Pre-Professional Requirements</b>	<b>15</b>
CEHS 200 Families, Schools & Communities (hours met in ACE)	0
CYAF 160 Human Development & The Family	3
CYAF 170 Intro to Early Care & Education	3
CYAF 280 Family Science	3
TEAC 259 Instructional Technology	3
TEAC 330 Multicultural Education (hours met in ACE)	0
TEAC 331 School & Society	3
Select from: ALEC 102; COMM 109, 210, 283 (hours met in ACE)	0
<b>Content Area Requirements</b>	<b>45</b>
Child Development	33
CYAF 270 Development of the Preschool Child	2
CYAF 270L Development of the Preschool Child Lab	1
CYAF 271 Infancy	3
CYAF 271L Infancy Lab	1
CYAF 371 Methods of Working with Infants in Families	3
CYAF 374 Curriculum Planning in Early Childhood Education	3
CYAF 374L Curriculum Planning in Early Childhood Education Lab	1
CYAF 380 Working with Parents, Schools, & Communities	3
CYAF 383 Emergent Literacy Methods for Young Children	3
CYAF 384 Math, Science, & Nature Education Methods	3
CYAF 385 Applied Methods of Social Emotional Development & Guidance	3
CYAF 385L Applied Methods of Social Emotional Development & Guidance Lab	1
CYAF 474 Assessment in Early Childhood	3
CYAF 490 Working Seminar in Early Childhood Education	3
Special Education	13
SPED 201 Intro to Special Education	3
SPED 251 Normal Language Development	3
SPED 303 Behavior Management	3
SPED 362 Early Childhood Special Education Methods	3
SPED 496Y Early Childhood Special Education Lab	1
<b>Professional Courses</b>	<b>12</b>
CYAF 497A Student Teaching in Early Childhood	12
<b>Electives</b>	<b>21</b>
<b>Total</b>	<b>120</b>

## 5. Family and Consumer Sciences Education

Students enrolled in this option will meet the requirements for the Nebraska Secondary Teaching Certificate and endorsement in Family and Consumer Sciences. Students may also combine the Family and Consumer Sciences Education program with other subject matter areas that will lead to teaching endorsements in other fields.

Students wishing to be endorsed for Family and Consumer Sciences related occupations must complete additional course work and work experience requirements. The student's adviser will assist the student in planning to meet these requirements. Students interested in preparing for extension positions are encouraged to include 497D in their programs.

### Minimum Admission Requirements

Prior to entering the program and taking CYAF 401 and CYAF 401A, students are required to receive passing scores in the Pre-Professional Skills Test, Computer-based Academic Skills Assessment (CBT), or Content Mastery Examination for Educators (CME). Students admitted into the Family and Consumer Sciences Education program and must have a cumulative 2.5 GPA with a minimum of 42 earned hours, no grade lower than a C and 2.5 cum GPA in TEAC 331 (or approved substitution) and EDPS 251, and earned credit in approved speech class. (See application for admission to Secondary Education programs in the Student Advising Center.)

### Admission to Student Teaching

All students who are candidates for an appropriately endorsed Nebraska Teachers Certificate are required to student teach. CYAF 413 Student Teaching is a full-day experience on a semester basis. Students must apply for student teaching to the Director of Field Experiences in 104 Henzlik Hall or to the CYAF department chair in 135 Mabel Lee Hall. Admission to student teaching requires the following:

1. Admission to the Family and Consumer Sciences Education program with a minimum GPA of 2.5.
2. A minimum 2.5 GPA in pre-professional and professional education courses with no grade lower than a C in pre-professional courses and no grade below a C+ in professional education courses.
3. A minimum 2.5 GPA in the endorsement area with no grade below a C.
4. All pre-professional and professional classes as well as endorsement requirements have been completed.
5. No more than 6 hours of general education or elective classes remain to be completed after the student teaching experience.

### Family and Consumer Sciences Related Occupations

Students wishing to be endorsed for Family and Consumer Sciences related occupations must complete additional course work and work experience requirements. The student's adviser will assist the student in planning to meet these requirements:

- Coordination Techniques (TEAC 425) (3 cr)
- 1,000 verified hours of paid work or combination of paid and volunteer work related to FCS (not more than half can be volunteer)
- Or, 300 hours of supervised work experience in FCS Related Occupations under the direction of an FCS teacher educator at UNL

### Extension

Students interested in Extension are encouraged to add CYAF 497D Practicum in CYAF and complete an internship experience in Cooperative Extension.

### Course Requirements

Courses identified by number cannot be taken Pass/No Pass (P/N) with the exception of CYAF 413. Should a student have earned a P in one of the courses (except those listed above) prior to starting the option, the P will be reviewed.

	Hours
Achievement-Centered Education	31
ACE 1: Written Texts Incorporating Research & Knowledge Skills	
Select from: ENGL 101, 101H, 150, 150H, 151, 151H, 254; JGEN 120, 200, 220, 300	3
ACE 2: Communication Skills	
Select from: COMM 109, 209, 210, 286	3
ACE 3: Mathematical, Computational, Statistical or Formal Reasoning Skills	
Select from: EDPS 459; STAT 218	3
ACE 4: Study of Scientific Methods & Knowledge of the Natural & Physical World	
CHEM 105 Chemistry & The Citizen I	4
ACE 5: Study of Humanities	
Select one course	3
ACE 6: Study of Social Sciences	
CYAF 160 Human Development & the Family	3
ACE 7: Study of the Arts to Understand Their Context & Significance	
Select one course	3
ACE 8: Ethical Principles, Civics & Stewardship & their Importance to Society	
Select one course	3
ACE 9: Global Awareness of Knowledge of Human Diversity through Analysis of an Issue	
NUTR 253 Cultural Aspects of Food & Nutrition	3
ACE 10: Integration of Abilities & Capacities in a Creative or Scholarly Product	
CYAF 413 Student Teaching	12
<b>Professional Core Requirements</b>	<b>25</b>
LIBR 110 Intro to Library Research	1
CEHS 200 Families, Schools & Communities	3
CYAF 160 Human Development & The Family (hours met in ACE)	0
CYAF 222 Family Financial Management	3
CYAF 280 Family Science	3
CYAF 285 Dating & Couple Relationships	3
CYAF 380 Working with Families in Communities & Schools	3
CYAF 382 Parenting	3
CYAF 488 Child & Family Policy	3
CYAF 495 Special Topics in Family & Cultural Diversity	3
<b>Additional Content Requirements</b>	<b>25</b>
CYAF 333 Families in the Economy	3
CYAF 401 FCS Curriculum (parallel with CYAF 401A)	3
CYAF 446 Addiction & Violence in Families or CYAF 451 Families & Stress	3
CYAF 471 Human Sexuality	3
NUTR 244 Scientific Principles of Food Preparation Lab	1
NUTR 245 Scientific Principles of Food Preparation Lab	1
NUTR 250 Human Metabolism	3
NUTR 253 Cultural Aspects of Food & Nutrition (hours met in ACE)	0
NUTR 372 Food Safety & Sanitation	3
TXCD 123 Clothing & Human Behavior	3
<b>Professional Education Requirements</b>	<b>25</b>
CYAF 401A CYAF Education Practicum I (parallel with CYAF 401)	1
CYAF 402 FCS Method of Instruction	4
CYAF 402A FCS Education Practicum II (parallel with CYAF 402)	1
CYAF 413 Student Teaching (hours met in ACE)	0
EDPS 251 Fundamentals of Adolescent Development	3
EDPS 297 Professional Practicum Experiences II	1
SPED 401B Accommodating Special Learners	3
TEAC 259 Instructional Technology	3

TEAC 330 Multicultural Education .....	3
TEAC 331 School & Society.....	3
TEAC 424 Foundations of Career & Technical Education.....	3
<b>Electives.....</b>	<b>5</b>
<i>Suggest these be taken in CYAF, NUTR, or TXCD</i>	
<b>Total .....</b>	<b>120</b>

## 6. Inclusive Early Childhood Education: Birth to Grade 3

Students enrolled in this option will meet the requirements for the Nebraska Early Childhood Education Unified (Birth to Grade 3) Teaching Certificate Endorsement. The program is based on an inclusive, family-focused style of working with young children across the range of abilities and disabilities, and on collaboration and teamwork. Students will gain a view of the field that integrates education, prevention, and intervention services. The program will prepare students for careers working in a variety of roles in early childhood classrooms and services.

### Admission to Teacher Education Program: Inclusive Early Childhood Education Program (IECE)

Selection to the teacher education programs is selective and based on the following criteria:

1. Completion of at least 30 credit hours with a minimum 2.5 GPA.
2. Completion of the following courses with a grade of C+ or above: TEAC 331 or CEHS 200; CYAF 271 and 271L or CYAF 270 and 270L; and TEAC 297A (IECE only); and one course fulfilling SLO 2.
3. Passing scores on the PPST.
4. Completion of application and documentation of practica experiences.

### Admission to Student Teaching: Inclusive Early Childhood Education Program (IECE)

All students who are candidates for a Nebraska Teacher's Certification are required to student teach. Admission to student teaching requires the following:

1. Admission to CYAF Education program.
2. A minimum 2.5 cumulative GPA.
3. A minimum 2.5 GPA in pre-professional and professional education courses and no grade below a C in pre-professional education courses and no grade below a C+ in professional education courses.
4. All pre-professional and professional requirements completed.
5. Completion of a criminal history check that will be conducted by an independent party (lab fee required).
6. IECE students are required to complete student teaching at preschool and elementary (K-3) age levels.

Hours

<b>Achievement-Centered Education.....</b>	<b>27-28</b>
ACE 1: Written Texts Incorporating Research & Knowledge Skills <i>Select from: ENGL 150, 151, 254; JOUR 102 .....</i>	<i>3</i>
ACE 2: Communication Skills <i>Select from: ALEC 102; COMM 109, 210, 283.....</i>	<i>3</i>
<b>Total .....</b>	<b>120</b>

ACE 3: Mathematical, Computational, Statistical or Formal Reasoning Skills <i>Select from: MATH 104, 106, 203, 208; SOCI 206; STAT 218; EDPS 459 .....</i>	3
ACE 4: Study of Scientific Methods & Knowledge of the Natural & Physical World <i>Select from: ENTO 115; NRES 108; METR 140, 200; SOCI 206; ANTH 242; BIOS 102; CHEM 105; GEOG 100, 103, 115, 155; TXCD 206.....</i>	3-4
ACE 5: Study of Humanities <i>Select one course.....</i>	3
ACE 6: Study of Social Sciences CEHS 200 Families, Schools & Communities.....	3
ACE 7: Study of the Arts to Understand Their Context & Significance <i>Select one course.....</i>	3
ACE 8: Ethical Principles, Civics & Stewardship & their Importance to Society <i>Select one course.....</i>	3
ACE 9: Global Awareness of Knowledge of Human Diversity through Analysis of an Issue TEAC 330 Multicultural Education .....	3
ACE 10: Integration of Abilities & Capacities in a Creative or Scholarly Product .....	0 <i>(Hours met with CYAF 497A in Professional Core)</i>
<b>Pre-Professional Requirements .....</b>	<b>23</b>
LIBI 110 Intro to Library Research.....	1
CEHS 200 Families, Schools & Communities <i>(hours met in ACE) .....</i>	0
CYAF 160 Human Development & The Family .....	3
CYAF 170 Intro to Early Care & Education .....	3
CYAF 280 Family Science.....	3
MATH 300 Math for Elementary Teachers .....	3
NUTR 100 Nutrition, Exercise, & Health .....	3
TEAC 259 Instructional Technology .....	3
TEAC 297A Professional Practicum Experiences II– Elementary.....	1
TEAC 330 Multicultural Education <i>(hours met in ACE) .....</i>	0
TEAC 331 School & Society.....	3
<i>Select from: ALEC 102; COMM 109, 210, 283 (hours met in ACE) .....</i>	0
<b>Content Area Requirements .....</b>	<b>46</b>
Child Development .....	17
CYAF 270 Development of the Preschool Child ..2	
CYAF 270L Development of the Preschool Child Lab.....	1
CYAF 271 Infancy.....	3
CYAF 271L Infancy Lab.....	1
CYAF 374 Curriculum Planning in Early Childhood Education.....	3
CYAF 374L Curriculum Planning in Early Childhood Education Lab .....	1
CYAF 474 Assessment in Early Childhood ..3	
SLPA 251 Normal Language Development ..3	
Special Education .....	14
SPED 201 Intro to Special Education.....	3
SPED 303 Behavior Management.....	3
SPED 362 Early Childhood Special Education Methods .....	3
SPED 496Y Early Childhood Special Education Lab .....	1
SPED 415/415A Reading & Writing Disabilities: Elementary Students & Practicum .....	4
Primary Education K-3.....	19
TEAC 302 Children's Literature .....	3
TEAC 305 Arts in the Elementary School Curriculum .....	4
TEAC 416A Literacy Methods K-3.....	3
TEAC 416B Science & Social Studies Methods K-3.....	3
TEAC 416D Math Methods K-3.....	3
TEAC 397D Professional Practicum Unified K-3.....	3
<b>Professional Courses .....</b>	<b>21-24</b>
CYAF 497A Student Teaching in Early Childhood ..9-12	
TEAC 403A Student Teaching Seminar .....	1
TEAC 497A, 497Y, 497Z Student Teaching in Elementary K-3.....	11
<b>Elective.....</b>	<b>0-3</b>
<b>Total .....</b>	<b>120</b>

## Courses of Instruction (CYAF)

Students in the family science option must complete CYAF 160, 280, and 222 with a minimum 2.5 GPA in the three courses, with no grade lower than a C, prior to enrolling in upper division courses.

(ACE 6) [ES] 160. **Human Development and the Family** (3 cr) (UNL, UNO)

Developmental life cycle approach to the study of the individual from conception to death. Each stage of life studied from the perspective of how individual development is fostered within the family system.

[ES] 160H. **Honors: Human Development and the Family** (3 cr) (UNL, UNO) Prereq: Good standing in the University Honors Program or by invitation. For course description, see CYAF 160.

170. **Introduction to Early Child Care and Education** (3 cr)

Introduction to early care and education and applied child development. Different philosophical and educational approaches to working with young children with a range of abilities in a variety of settings.

(ACE 6) 222. **Introduction to Family Finance** (3 cr) (UNL, UNO) Prereq: Sophomore standing. *Not open to students with credit in FINA 260 or equivalent.*

Individual and family financial planning. Emphasis on financial planning for families in the early life cycle. Application of credit, insurance, savings, investments, taxes, and estate planning information to individual and family needs.

270. **Development of the Preschool Child** (2 cr) (UNL) Prereq: CYAF 160 or 160H, or equivalent. Parallel CYAF 270L.

Growth and behavior related to the preschool years, ages two through five.

270L. **Development of the Preschool Child–Laboratory** (1 cr)

(UNL) Lab. Prereq: CYAF 160 or 160H, or equivalent. Parallel CYAF 270. CYAF 270L is *Pass/No Pass only*. Observation of and participation in the care and guidance of preschool children.

[ES] 271. **Infancy** (3 cr) (UNL) Prereq: CYAF 160 or 160H, or equivalent; parallel CYAF 271L.

Human growth and behavior from conception to three years of age from a holistic and ecological perspective including application of knowledge to the care and education of infants and toddlers.

271L. **Infancy Laboratory** (1 cr) Lab. Prereq: CYAF 160 or 160H, or equivalent. Parallel CYAF 271. CYAF 271L is *Pass/No Pass only*.

Human growth and behavior from conception to three years of age.

(ACE 6) [IS] 280. **Family Science** (3 cr) (UNL, UNO)

Introduction to research and theory on family relationships and to careers working with children and families. Family systems and how they are affected by healthy and unhealthy processes. How ethnicity, gender and social class influences family living.

281. **Communication and Interviewing Skills for Helping Professionals** (1 cr) (UNL) Prereq: 9 hours CYAF or social sciences.

Skill development: learning and applying interviewing skills that are used in the helping professions. Models that foster students' understanding of the helping process and their ability to practice communication and interviewing skills with individuals and families.

285. **Dating and Couple Relationships** (3 cr II, III) Lec 3.

The complexities of dating and diverse couple relationships from both developmental and family system perspectives. Research on the formation, dissolution, and maintenance of relationships. Promotion of healthy communication and interactional patterns. The influence of family of origin dynamics, culture, gender, and life cycle transitions.

299H. **Honors: Independent Study** (1-5 cr, max 5) Prereq: Good standing in the University Honors Program or by invitation;

College of Education and Human Sciences honor program student; and a major in one of the Human Sciences areas *Grade only*. Human growth and behavior from conception to three years of age.

**322. Advanced Family Finance** (3 cr) (UNL, UNO) Prereq: CYAF 222. Critical analyses and intervention strategies of family finance issues across the life span.

**[ES][IS] 333. Families in the Economy** (3 cr) (UNL, UNO) Lec 3. The determinants of economic well-being of individuals and families over time. The consequences of family economic well-being for family functioning and outcomes. Family economics theories and concepts. How families develop, acquire, maintain, and conserve scarce resources to attain desired standards of living.

**371. Methods of Working with Infants in Programs and Communities** (3 cr II) Lec 3. Prereq: CYAF 271 and 271L, with grades of 'Pass' or 'C' or better.

Program models used in programs serving infants and toddlers. Center-based and home-based models. Curricula, training programs, and methods of assessment used in infant-toddler programs. Current state efforts to define standards and outcomes for infants and toddlers.

**372. Middle Childhood and Adolescence** (3 cr) (UNL) Prereq: CYAF 160 or 160H or equivalent.

Theoretical interrelationships of the physiological, psychological, and sociological and cognitive aspects of development during the years after early childhood through adolescence.

**374. Curriculum Planning in Early Childhood Education** (3 cr) Lec 3. Prereq: CYAF 160 or 160H or 170; CYAF 270 and 270L; parallel CYAF 374L.

The teacher's role in facilitating early childhood learning through planning, implementing the best practices, sequencing, documenting, and evaluating early childhood instruction.

**374L. Curriculum Planning in Early Childhood Education Laboratory** (1 cr) Lab 2. Prereq: CYAF 160 or 160H or 170; CYAF 270 and 270L; parallel CYAF 374.

Planning, implementing, and evaluating developmentally appropriate activities for young children in a supervised early childhood laboratory setting.

**(ACE 6) 380. Working with Families in Communities and Schools** (3 cr III) Lec 3. Prereq: 12 hrs in major.

The theoretical foundations for working with families in the community and school. Professional interaction skills needed to establish sound working relationships with families. Ethical guidelines for professional interactions with families to facilitate appropriate application of principles to the diversity of professionals working with families.

**[ES][IS] 381. Family Intervention with Fieldwork** (3 cr) (UNL, UNO) Fld 3. Prereq: CYAF 160 or 160H, 222, 280, and with an overall minimum grade average of 2.5 for these three courses. *Includes a pre-practicum fieldwork experience.*

Theories and skills for assessment, intervention, and referral.

**382. Parenting** (3 cr) (UNL, UNO) Lec. Prereq: Sophomore standing.

Introduction to principles of parenting within multidimensional contexts including developmental, structural, and cultural perspectives. Biopsychosocial aspects of parenting in relationship to family life cycles. Evidence-based practices for personal and programmatic application.

**383. Literacy Methods for Young Children** (3 cr I) Lec 3. Prereq: CYAF 374 and 374L.

Research base and historical antecedents of current theories of literacy development in young children. The specific connection between those theories and construction and successful implementation of developmentally appropriate, relationship-rich literacy methods, strategies, materials, and environments for children from birth to age five. Assessment tools of teacher effectiveness and early literacy acquisition, formal and informal techniques.

**384. World of Wonder: Math, Science and Nature Integrated Methods Birth to Age 5** (3 cr I) Lec 1. Prereq: CYAF 170 or equivalent.

The development and learning of children from birth to age five in the domains of math, science, and nature. The developmentally appropriate methods for supporting children's development in these domains.

**385. Applied Methods of Social Emotional Development and Guidance** (3 cr II) Lec 3. Prereq: CYAF 170, 270, and 270L; parallel CYAF 385L. CYAF 385 is for people interested in working with children in schools, child care programs, and in social service agencies.

An overview of the components of social competence and what influences its development. Common social difficulties experienced by children and enhancing children's social competence.

**385L. Applied Methods of Social Emotional Development and Guidance Laboratory** (1 cr II) Lab. Prereq: CYAF 170, 270, and 270L; parallel CYAF 385. CYAF 385L is for students to improve their ability to interact effectively with young children. CYAF 385L provides a bridge between theory and practice, complementing CYAF 385. CYAF 385L is Pass/No Pass only.

Practice and demonstrate behaviors and skills related to sound child development theory and/or research and best practices under the guidance of early childhood professionals.

**396. Independent Study in Child, Youth and Family Studies** (1-5 cr, max 5) Ind. Prereq: 12 hrs CYAF or closely related areas; and permission. CYAF 396 requires a completed contract form before registering.

Individual problems and readings in current literature.

**396H. Honors: Independent Study in Child, Youth and Family Studies** (1-5 cr, max 5) Ind. Prereq: Good standing in the University Honors Program or by invitation; 12 hrs CYAF or closely related areas; and permission. CYAF 396 requires a completed contract form before registering. CYAF 396 is 'Letter grade only.' Individual problems and readings in current literature under the direction of a faculty member in the department.

**401/801. Family and Consumer Sciences Curriculum** (3 cr) (UNL) Lec 3. Prereq: Parallel CYAF 402/802.

Development of curriculum for Family and Consumer Sciences (CYAF) using student-centered, interactive methods of instruction.

**401A/801A. Family and Consumer Sciences Education Practicum I** (1-3 cr I) Fld. Prereq: Parallel CYAF 401/801. Undergraduate students register for CYAF 401A for 1 cr hr. Graduate students register for CYAF 801A for 3 cr hrs.

Development and implementation of teaching plans in a supervised 7th to 12th grade setting.

**402/802. Family and Consumer Sciences Method of Instruction** (4 cr) (UNL) Lec. Prereq: Parallel CYAF 401/801.

Develop teaching and/or learning plans for teaching Family and Consumer Sciences. Analyze classroom management practices and develop plans for assessment.

**402A/802A. Family and Consumer Sciences Education Practicum II** (1 cr II) Fld. Prereq: Parallel CYAF 401/801 and 401A/801A.

Development and implementation of teaching plans in a supervised setting in school grades 7th to 12th. Observation of the effectiveness of classroom management practices.

**407. Supervisory Leadership** (ALEC 407/807) (3 cr) Lec 3. Prereq: ALEC 302.

For course description, see ALEC 407/807.

**NOTE: All CYAF 413/813 sections require advance reservation for a specific semester before enrolling in course.**

**(ACE 10) 413/813. Student Teaching in Family and Consumer Sciences** (12 cr) (UNL) Prereq: CYAF 401/801 and 402/802. *Pass/No Pass only.*

Actual experience in the teaching of Family and Consumer Sciences. Fourteen weeks of supervised student teaching experience. One middle level and one high school experience required.

**416/816. Educational Programming** (3 cr) (UNL, UNO) Prereq: Junior standing. *Not open to FACS Education majors in the certification track.*

Planning and implementing developmentally appropriate educational experiences for a variety of audiences in non-formal settings.

**446/846. Addictions and Families** (3 cr) Lec 3.

Introduction to addictions from a family systems perspective: theories; behavioral patterns; physiological, psychological, and social impacts on individuals and the family; and implications for interventions and treatment.

**451/851. Family Stress: Crisis, Coping and Recovering** (3 cr II) (UNL, UNO) Lec 3. Prereq: Junior standing. CYAF 451 is 'Letter grade only.'

Commonly experienced family stressors (e.g., violence, poverty, war and political conflict, and natural disasters). How these events affect family functioning. The use of the ABC-X theory

of family stress to understand the crisis events and how families can cope and recover from these distressing experiences.

**462/862. Adulthood and Aging** (3 cr) (UNL)

Human development from young adulthood to old age. Interaction of, and changes in, physical, psychological, and social-relational development.

**470/870. Program Design, Implementation and Evaluation in Family and Human Sciences** (3 cr) Prereq: 9 hrs CYAF or related social sciences. *Participation in a community-based project involving the practical application of program design and evaluation methods is required.*

Principles and methods of program design, implementation, and outcome evaluation of children and family programs.

**471/871. Human Sexuality and Society** (EDPS, PSYC, SOCI 471/871) (3 cr) (UNL) Prereq: Junior standing and 12 hrs in one of the departments in which the course is listed. *Open to advanced students planning careers in the professions in which knowledge of human behavior and society is important (e.g., helping professions, medicine, law, ministry, education, etc.).*

For course description, see PSYC 471/871.

**474/874. Assessment in Early Childhood** (3 cr) (UNL) Prereq: 12 hrs CYAF or related social sciences including CYAF 270 and 270L.

Selection, use, and interpretation of assessment instruments for understanding the developmental level of children from birth through age eight. Assessment of reasoning and thinking processes, concept formation, and social cognition.

**476/876. Cognitive Processes in Children** (3 cr) (UNL) Prereq: 12 hrs CYAF and/or related social sciences including CYAF 270, 270L.

Nature and development of reasoning and thinking processes and concept formation in children. Contribution of Piaget and others in providing new insights. Implications of these for teachers, parents, and others working with young children.

**477/877. Administration of Early Childhood Programs** (3 cr) (UNL) Prereq: 12 hrs CYAF including CYAF 270.

Administration of early childhood programs.

**[ES][IS] 488/888. Child and Family Policy** (3 cr) (UNL, UNO) Lec. Prereq: Junior standing.

Analysis of child and family policies, including what is family policy, how policy is made and implemented, how values and goals affect policy and future directions for child and family policies in America and in other countries.

**490/890. Workshop Seminar in Early Childhood** (1-3 cr) (UNL) Prereq: CYAF 270 and 270L.

Special topics in early childhood education. Topics vary.

**493/893. Special Topics in Contemporary Family Issues** (1-3 cr, max 18) (UNL, UNO) Lec.

Current issues such as debt management, gender and family, low-income families, retirement planning, work and family, mothering, fathering, housing. Topics vary.

**(ACE 9) 495/895. Special Topics in Family and Cultural Diversity** (3 cr, max 18) (UNL, UNO) Lec.

Current topics related to diverse populations, e.g., religion, sexual orientation, ethnicity. Topics vary.

**496/896. Advanced Independent Study** (1-6 cr, max 6) (UNL, UNO) Ind. Prereq: 12 hrs CYAF and/or related social sciences. CYAF 496/896 requires a contract and the contract is to be completed before registering for the course. Work in CYAF 496/896 is supervised and evaluated by a CYAF faculty member.

Individual projects in research, literature review, or creative production may or may not be an extension of course work.

**NOTE: All CYAF 497/897 courses require advance application and reservation for a specific semester before enrolling in course.**

**(ACE 10) 497A. Student Teaching in Early Childhood Education** (7-12 cr, max 12) Fld. Prereq: CYAF 270 and 270L; CYAF 374 and 374L, with grades of "C" or better. Inclusive Early Childhood Education: Birth to Grade 3 (IECE) Option: students must also have taken SPED 362 with a grade of "C" or better. *Pass/No Pass only.*

Integrating developmental theory into the planning, implementation, and evaluation of individual and group experiences for young children in a child development laboratory.

(ACE 10) 497D/897D. **Community Internships in Family and Consumer Sciences** (3-6 cr, max 6) (UNL, UNO) Fld. Prereq: Junior standing; 12 hrs CYAF or other social sciences. Fieldwork in agencies serving children, youth, families and communities.

**498A. Child, Youth and Family Studies Research** (1 cr) Ind. Application of principles of research design and methods to a specific area of research.

**498/098. UCARE, REU, Non-UCARE Research Experience in Child, Youth and Family Studies** (1-6 cr, max 6) (UNL, UNO) Ind. CYAF 098/498 requires a completed contract form before registering. CYAF 098 is zero credit hours and is 'Pass/No Pass only.' Undergraduate Creative Research Experience (UCARE), Research Experience for Undergraduates (REU), and non-UCARE research and/or creative activity.

**499H. Honors Thesis** (1-6 cr, max 6) Ind. Prereq: Good standing in the University Honors Program or by invitation. CYAF 499H requires a completed contract form before registering. CYAF 499H is 'Letter grade only.'

Honors thesis in Child, Youth and Family Studies.

**807. Supervisory Leadership** (ALEC 807) (1-6 cr) (UNL)

**\*808. Occupational Programs in Family and Consumer Sciences** (3 cr) Lec. Prereq: Admission to CYAF graduate program. Distance delivered by Iowa State University.

**810. Teaching and Learning in CYAF Classrooms** (2 cr) (UNL) Prereq: 6 hrs in CYAF, NUTR, or TXCD.

**811. Perspectives on Child, Youth and Family Studies** (1 cr, 3 max) (UNL) Prereq: 24 hrs CYAF, preferably distributed among the subject fields.

- A. Historical Development of Family and Consumer Sciences
- B. Current Issues in Society and Implications for Child, Youth and Family Studies
- D. Future Trends and Professions in Consumer Sciences
- E. Future Trends and Professions in Child, Youth and Family Studies

**812. Developing Instruction in Family and Consumer Sciences** (2 cr) Lec. Prereq: CYAF 210 and 401.

**815. Advanced Teaching Methods in Family and Consumer Sciences Education** (3 cr) (UNL)

**817. Critical Issues for the Beginning Teacher** (1-3 cr)

**818. History and Philosophy of Family and Consumer Science and Career and Technical Education** (3 cr) Lec 3.

**821. Insurance Planning for Families** (3 cr)

**822. Financial Counseling** (3 cr) (UNL, UNO) Prereq: CYAF 222, 322, 381, and 434.

**828. Retirement Planning, Employee Benefits and the Family** (3 cr)

**830. Practicum in Infant Development** (3 cr) Lec 2, lab 3.

**845. Research in Occupational Education** (ALEC \*845) (3 cr) Lec.

**860. Employee Assistance Program Seminar** (3 cr) Prereq: An 800-level CYAF course, MNGT 861, EDPS 882, 868, or permission.

**861. Foundations of Youth Development** (1 cr) Prereq: Admission to CYAF graduate program or permission.

**863. Youth Professionals as Consumers of Research** (3 cr) Prereq: Admission to CYAF graduate program or permission. May also be offered by Montana State University via distance delivery.

**864. Community Youth Development** (3 cr) Prereq: Admission to CYAF graduate program or permission. Distance delivered by Michigan State University.

**865. Research Design and Methods** (3 cr) (UNL)

**867. Implementing Research and Scholarly Practice** (2 cr) Prereq: CYAF 865.

**868. Adolescents and Their Families** (3 cr) Prereq: Admission to CYAF graduate program or permission. Distance delivered by Montana State University.

**869. Administration and Program Management** (3 cr) Prereq: Admission to CYAF graduate program or permission. Distance delivered by Colorado State University or Kansas State University.

**872. Youth Development** (3 cr) (UNL, UNO) Prereq: 12 hours CYAF or social sciences.

**873. Program Design, Evaluation and Implementation** (3 cr) Prereq: Admission to CYAF graduate program or permission. May also be offered by Colorado State University via distance delivery.

**875. Youth in Cultural Contexts** (3 cr) Prereq: Admission to CYAF graduate program or permission. Distance delivered by Michigan State University.

**878. Youth Policy** (3 cr) Prereq: Admission to CYAF graduate program or permission. Distance delivered by Michigan State University.

**882. Parent Education** (3 cr) (UNL) Lec, lab arr. Prereq: 12 hrs CYAF and/or social sciences.

**890. Workshop in Improving Curriculum and Instruction** (1-3 cr each per sem, max 15) (UNL) Prereq: 6 hrs education, 12 hrs CYAF including some work in specific areas.

- A. Related Art
- B. Family Economics/Consumer Education
- D. Food and Nutrition
- E. Housing and Furnishings
- G. Human Development and the Family
- J. Home Management
- K. Textiles and Clothing

**891. Special Topics in Human Sciences** (HUMS, NUTR, SLPA, TEAC, TXCD \*891) (1-3 cr, max 12)

**892. Special Topics in Education** (EDUC, EDPS, SPED, TEAC \*892) (1-3 cr, max 12)

**894. Contemporary Youth Issues** (1-9 cr, max 9) Lec. Prereq: Admission to the CYAF graduate program and permission.

**897. Supervised Educational Experiences in Family and Consumer Sciences** (1-6 cr) (UNL) Prereq: Permission. Actual and simulated education experiences in CYAF. Pass/No Pass only.

**897A. Practicum in Early Childhood Education** (3 cr) (UNL) Lec 3, lab 24. Prereq: CYAF 270 and 270L with grades of C or better; or permission. Pass/No Pass only.

**899. Masters Thesis** (6-10 cr) (UNL)

Refer to the Graduate Bulletin for 900-level courses.

## Department of Nutrition and Health Sciences

**Chair:** Professor Marilynn Schnepf

**Professors:** Albrecht, Carr, DiRusso, Driskell, Housh, Lewis

**Associate Professors:** Hamouz, Jones, Scheer, Schmidt, Stanek-Krogstand, Zempleni

**Extension Associate Professor:** Koszewski

**Assistant Professor:** Lee

**Assistant Professors of Practice:** Perry, Rudy, Young

**Lecturer:** McMeen

There are six options in the Department of Nutrition and Health Sciences. The dietetics option; the nutrition science option; the dietetics/journalism and mass communications option; the nutrition, exercise and health science option; the Culinology® (culinary science) option; the athletic training education option; and the hospitality, restaurant and tourism management major.

## Acceptance of Grades

Only grades of C or above will count toward graduation requirements for department (NUTR) classes.

## Graduate Study

Advanced degrees of master of science in nutrition and health sciences and master of science and doctor of philosophy degrees are offered in the interdepartmental nutrition program as well as in the College of Education and Human Sciences. For details see the *Graduate Studies Bulletin*.

## 1. Dietetics (Didactic Program in Dietetics)

The Dietetics (Didactic Program in Dietetics) option is designed for students who wish to become registered dietitians and practitioners in clinical, community, food industry, and foodservice areas of nutrition. Registered dietitians are employed by hospitals, community agencies, and various government or private organizations. The University of Nebraska Didactic Program in Dietetics is currently granted developmental accreditation status by the Commission on Accreditation for Dietetics Education of the American Dietetic Association, 120 South Riverside Plaza, Suite 2000, Chicago, IL 60606-6995, 312/899-0040, ext. 5400. Completion of degree requirements will result in the student being awarded a Verification Statement of completion of the Didactic Program in Dietetics. Following completion of the Didactic Program in Dietetics, an accredited dietetic internship program is required before students are eligible to take the registration examination and obtain the Registered Dietitian (RD) credential.

All required accreditation information can be found at <http://cehs.unl.edu/nhs/undergrad/dietetics.shtml>.

## Application to the Didactic Program in Dietetics (DPD)

Following successful completion (a grade of C or above must be earned in all NUTR courses) of prerequisite courses\*, application is necessary for entrance into the Didactic Program in Dietetics (DPD) which consists primarily of nutrition course work at the 300 and 400 level.

## Program Acceptance Requirements

(See adviser in Student Advising Center and/or DPD Student Handbook for complete details.)

1. Application must be submitted by February 15 prior to the fall semester of desired acceptance.
2. Admission requirements for acceptance into the Didactic Program in Dietetics include a cumulative grade point average of 3.0 or above and completion of 48 or more credit hours which must include the following prerequisite courses:
  - CHEM 109 General Chemistry I and CHEM 110 General Chemistry II
  - BIOL 101/101L General Biology or BIOS 102 Cell Structure & Function or BIOS 103 Organismic Biology

- NUTR 100 Nutrition, Exercise & Health
- NUTR 150 Foundation in Nutrition & Health Promotion
- NUTR 244/245 Scientific Principles of Food Preparation/Lab
- NUTR 250 Human Nutrition & Metabolism
- NUTR 251 Nutrition Through the Life Cycle
- NUTR 253 Cultural Aspects of Food & Nutrition

### Verification Statement of Meeting Didactic Program in Dietetics Requirements

The Department of Nutrition and Health Sciences will provide a Verification Statement of a student meeting Didactic Program in Dietetics (DPD) requirements based on the program in effect in the undergraduate bulletin the student is using for graduation requirements if the student is continuously enrolled and graduates within five years. If the student cannot finish their studies within this five-year time period, they must comply with the didactic program reflected in the undergraduate bulletin currently in effect. The Department of Nutrition and Health Sciences will not accept course work to meet prerequisite courses for DPD program admission or DPD requirements from any university or college outside the University of Nebraska system in which a grade of D-, D, or D+ was earned.

In order to receive a Verification Statement of a student meeting Didactic Program in Dietetic requirements, a minimum of 15 credits from 300- or 400-level courses must be completed at the University of Nebraska–Lincoln. Nine of the 15 credit hours must come from three of the following classes: NUTR 450 Medical Nutrition Therapy I, NUTR 452 and 452L Medical Nutrition Therapy II and Lab, NUTR 455 Advanced Nutrition, or NUTR 473 Organization and Administration of Foodservice. The minimum of 120 credit hours required for graduation is to be met as follows.

### Achievement-Centered Education (ACE)

All UNL students who are following the 2009-10 bulletin will be required to complete a minimum of 3 hours of approved course work in each of the 10 designated ACE Student Learning Outcome (SLO) areas which are described on page 17 of this bulletin. **It is highly recommended that students contact their adviser prior to registering for ACE classes** in order to insure that each of the class selections are in the best interest of the students' academic program.

Hours

- |  |       |
|--|-------|
| Achievement-Centered Education.....  | 31-32 |
| ACE 1: Written Texts Incorporating Research & Knowledge Skills<br>Select one course.....   | 3     |
| ACE 2: Communication Skills<br>Select one course.....  | 3     |
| ACE 3: Mathematical, Computational, Statistical or Formal Reasoning Skills<br>Met with professional requirement selection EDPS 459 or STAT 218 ..... | 3     |
| ACE 4: Study of Scientific Methods & Knowledge of the Natural & Physical World<br>Met with DPD entrance requirement CHEM 109....                     | 4     |
| ACE 5: Study of Humanities<br>Select one course.....   | 3     |
| ACE 6: Study of Social Sciences<br>Met with professional requirement CEHS 200 .....  | 3     |

ACE 7: Study of the Arts to Understand Their Context & Significance Select one course.....	3
ACE 8: Ethical Principles, Civics & Stewardship & their Importance to Society Select one course.....	3
ACE 9: Global Awareness of Knowledge of Human Diversity through Analysis of an Issue Met with DPD entrance requirement NUTR 253....	3
ACE 10: Integration of Abilities & Capacities in a Creative or Scholarly Product Department designated course.....	3-4
<b>DPD Entrance Requirements.....</b>	<b>22</b>
CHEM 109 General Chemistry I.....	4
CHEM 110 General Chemistry II.....	4
BIOL 101 & 101L General Biology & Lab or BIOS 102 Cell Structure & Function or BIOS 103 Organismic Biology (hours met in ACE).....	0
NUTR 100 Nutrition, Exercise & Health .....	3
NUTR 150 Foundations in Nutrition & Health Promotion.....	1
NUTR 244 & 245 Scientific Principles of Food Preparation & Lab.....	4
NUTR 250 Human Nutrition & Metabolism.....	3
NUTR 251 Nutrition Through the Life Cycle.....	3
NUTR 253 Cultural Aspects of Food & Nutrition (hours met in ACE).....	0
<b>Professional Requirements.....</b>	<b>51-55</b>
Nutrition and Health Sciences.....	32
<i>Only grades of C or above will count toward graduation requirements for NUTR courses.</i>	
NUTR 344 Food & Nutrition for Healthy Living.....	3
NUTR 356 Nutrition Education in the Community .....	3
NUTR 370 Food Production Management.....	3
NUTR 371 Applied Food Production Lab.....	1
NUTR 402 Facts & Fiction in Fitness & Food....	3
NUTR 450 Medical Nutrition Therapy I .....	3
NUTR 452 Medical Nutrition Therapy II .....	3
NUTR 452L Medical Nutrition Therapy II Lab ..	1
NUTR 453 Nutrition & Fitness Communication Strategies.....	3
NUTR 455 Advanced Nutrition .....	3
NUTR 470 Cost Control for Foodservice.....	2
NUTR 473 Organization & Administration of Foodservice .....	3
NUTR 490 Professional Preparation for Careers in Dietetics.....	1
Supporting Courses.....	4-7
CEHS 200 Families, Schools & Communities (hours met in ACE) .....	0
EDPS 459 Statistics Methods or STAT 218 Intro to Statistics (hours met in ACE) .....	0
PSYC 181 Intro to Psychology .....	4
MATH 101 College Algebra or higher, trigonometry or calculus (Math requirement waived if placed above MATH 101 on Math Placement Exam) .....	0-3
Supporting Sciences.....	15-16
BIOS 111 The Biology of Microorganisms or BIOS 312 & 314 Fundamentals of Microbiology & Lab or NUTR 372 Food Safety & Sanitation .....	3-4
BIOS 213 & 213L Human Physiology & Lab or ASCI 240 Anatomy & Physiology of Domestic Animals .....	4
CHEM 251 & 253 Organic Chemistry & Lab .....	4
BIOC 321 & 321L Elements of Biochemistry & Lab or BIOC 431 Biomolecules & Metabolism.....	4
<b>Electives.....</b>	<b>11-16</b>
<b>Total.....</b>	<b>120</b>

### 2. Culinary Science

The Culinary Science (Culinology®) option is the emerging discipline of the culinary arts, nutrition and the science of food. Culinology® is becoming a recognized and valued discipline that will significantly impact food research and development in the global market. Culinologists are skilled chefs who are creating a new generation of

exciting, high-quality convenience food products. The food industry needs—and rewards—people who understand and can apply the principles of this specialty. The minimum of 120 hours required for graduation is to be met as follows:

### Achievement-Centered Education (ACE)

All UNL students who are following the 2009-10 bulletin will be required to complete a minimum of 3 hours of approved course work in each of the 10 designated ACE Student Learning Outcome (SLO) areas which are described on page 17 of this bulletin. **It is highly recommended that students contact their adviser prior to registering for ACE classes** in order to insure that each of the class selections are in the best interest of the students' academic program.

	Hours
Achievement-Centered Education.....	34
ACE 1: Written Texts Incorporating Research & Knowledge Skills Select one course.....	3
ACE 2: Communication Skills Select one course.....	3
ACE 3: Mathematical, Computational, Statistical or Formal Reasoning Skills Met with professional requirement selection	
STAT 218 .....	3
ACE 4: Study of Scientific Methods & Knowledge of the Natural & Physical World Met with professional requirement CHEM 109.....	4
ACE 5: Study of Humanities Select one course.....	3
ACE 6: Study of Social Sciences Met with professional requirement CEHS 200 .....	3
ACE 7: Study of the Arts to Understand Their Context & Significance Select one course.....	3
ACE 8: Ethical Principles, Civics & Stewardship & their Importance to Society Met with professional requirement ECON 211 and ECON 212.....	6
ACE 9: Global Awareness of Knowledge of Human Diversity through Analysis of an Issue Met with professional requirement NUTR 253.....	3
ACE 10: Integration of Abilities & Capacities in a Creative or Scholarly Product Met with professional requirement FDST 460.....	3
<b>Professional Requirements.....</b>	<b>78</b>
Nutrition and Health Sciences.....	24
<i>Only grades of C or above will count toward graduation requirements for NUTR courses.</i>	
HRTM 173 Field Experience in Hospitality Management II.....	1
NUTR 244 Scientific Principles of Food Preparation .....	3
NUTR 245 Scientific Principles of Food Preparation Lab.....	1
NUTR 250 Human Nutrition & Metabolism .....	3
NUTR 253 Cultural Aspects of Food & Nutrition (hours met in ACE) .....	0
NUTR 344 Food & Nutrition for Healthy Living.....	3
NUTR 371 Applied Food Production Lab.....	1
NUTR 372 Food Safety & Sanitation or BIOS 312 Fundamentals of Microbiology.....	3
NUTR 441 Functional Properties of Foods and/or FDST 448 Food Chemistry and/or NUTR 445 Experimental Foods .....	6
NUTR 449 Culinology® Research Experience .....	3
Food Science and Technology.....	9
FDST 205 Food Composition & Analysis.....	3
FDST 403 Food Quality Assurance .....	3
FDST 430 Sensory Evaluation .....	3
FDST 460 Food Product Development Concepts (hours met in ACE) .....	0
Supporting Sciences .....	11
BIOC 321 Elements of Biochemistry .....	3
CHEM 109 General Chemistry I (hours met in ACE) .....	0
CHEM 110 General Chemistry II .....	4
CHEM 251 & 253 Organic Chemistry & Lab .....	4

Supporting Courses.....	34
CEHS 200 Families, Schools & Communities (hours met in ACE).....	0
ECON 211 & 212 Principles of Macroeconomics & Microeconomics (hours met in ACE).....	0
MATH 101 College Algebra .....	3
<i>If a student does not place into MATH 101, they must complete the appropriate course(s) plus complete MATH 101. If a student places above MATH 101, the student will take either MATH 101 or the MATH course they placed into.</i>	
MRKT 341 Marketing.....	3
STAT 218 Intro to Statistics (hours met in ACE).0	
Processing electives.....	6
Select two courses from:	
ASCI 210 Animal Products (3 cr)	
ASCI 310 Fresh Meats (3 cr)	
ASCI 410 Processed Meats (3 cr)	
FDST 363 Heat & Mass Transfer (3 cr)	
FDST 405 Food Microbiology (3 cr)	
FDST 412 Cereal Technology (3 cr)	
FDST 420 Fruit & Vegetable Technology (3 cr)	
FDST 429 Dairy Technology (3 cr)	
FDST 455 Microbiology of Fermented Foods (3 cr)	
NUTR 343 Meat Culinology® III: Foodservice Applications (3 cr) <i>(Grade of C or better required in NUTR 343)</i>	22
Area of Concentration .....	22
Culinary Arts Electives from an accredited Culinary Arts Institution	
Electives.....	8
Total .....	120

### Meat Culinology® Certificate Program

The Meat Culinology® Certificate program at UNL concentrates on meat because it is the center of most meals and is the major portion of the food budget in the food service industry. Proper handling and preparation is paramount to the success of a meal and a food establishment. The faculty at UNL who developed this program know that food industry professionals are busy. With little time to take courses on campus, the online Meat Culinology® Certificate program allows professionals the opportunity to advance their education and career by learning more about the science and art of meat. The six-course sequence will teach you everything from harvest to consumption of livestock and poultry. The Meat Culinology® Certificate program consists of six courses. Students must successfully complete all six courses in order to earn certification. Successful completion is considered an earned grade of 'C' or higher.

Hours

Meat Culinology® Certificate Program .....	18
ASCI 210 Intro to Animal Products.....	3
ASCI/NUTR 213 Meat Specification & Procurement ..	3
ASCI 310 Fresh Meats.....	3
NUTR/ASCI 343 Food Service Applications .....	3
ASCI 410 Processed & Value added Meats .....	3
ASCI 411 HACCP & Food Safety Systems for Processors .....	3

### 3. Nutrition Science (Pre-Professional)

The Nutrition Science option is designed for students who wish to combine an emphasis in nutrition with a strong science background. This major provides an appropriate vehicle for premedical, dental, nursing, physical therapy, and laboratory technology majors who may be able to obtain a degree in nutrition and simultaneously meet entrance requirements for a professional program. It is also a suitable avenue for students interested in nutrition research and graduate study since it provides an opportunity to emphasize the

basic sciences. **NOTE:** The admission requirements for pre-professional programs vary and may change from year to year. Admission to professional programs are competitive. Students need to be aware of not only specific course requirements but also entrance exams, admission deadlines, research and volunteer opportunities, and other activities that enhance the application. In order to receive the most timely information on requirements and preparation, students should visit the Arts and Sciences Advising Center, 107 Oldfather Hall, 472-4190. The minimum of 120 credit hours required for graduation is to be met as follows.

### Achievement-Centered Education (ACE)

All UNL students who are following the 2009-10 bulletin will be required to complete a minimum of 3 hours of approved course work in each of the 10 designated ACE Student Learning Outcome (SLO) areas which are described on page 17 of this bulletin. **It is highly recommended that students contact their adviser prior to registering for ACE classes** in order to insure that each of the class selections are in the best interest of the students' academic program.

Hours

Achievement-Centered Education.....	31
ACE 1: Written Texts Incorporating Research & Knowledge Skills Select one course.....	3
ACE 2: Communication Skills Select one course.....	3
ACE 3: Mathematical, Computational, Statistical or Formal Reasoning Skills Met with professional requirement EDPS 459 or STAT 218 .....	3
ACE 4: Study of Scientific Methods & Knowledge of the Natural & Physical World Met with professional requirement BIOS 103 .....	4
ACE 5: Study of Humanities Select one course.....	3
ACE 6: Study of Social Sciences Met with professional requirement CEHS 200 .....	3
ACE 7: Study of the Arts to Understand Their Context & Significance Select one course.....	3
ACE 8: Ethical Principles, Civics & Stewardship & their Importance to Society Select one course.....	3
ACE 9: Global Awareness of Knowledge of Human Diversity through Analysis of an Issue Met with professional requirement NUTR 253 or SOCI 200 or SOCI 217 .....	3
ACE 10: Integration of Abilities & Capacities in a Creative or Scholarly Product Department designated course.....	3
Professional Requirements.....	74-80
Nutrition and Health Sciences.....	22
<i>Only grades of C or above will count toward graduation requirements for NUTR courses.</i>	
NUTR 250 Human Nutrition & Metabolism ..	3
NUTR 344 Food & Nutrition for Healthy Living.....	3
NUTR 401 Health Behavior or NUTR 403 Physiological Foundation of Health & Disease .....	3
NUTR 402 Facts & Fiction in Fitness & Foods..	3
NUTR 450 Medical Nutrition Therapy I .....	3
NUTR 452 Medical Nutrition Therapy II .....	3
NUTR 455 Advanced Nutrition .....	3
NUTR 457 Classroom & Outreach Experiences in Food & Nutrition or NUTR 498 Research Experiences.....	1
Supporting Courses.....	7
CEHS 200 Families, Schools & Communities (hours met in ACE) .....	0
EDPS 459 Statistics Methods or STAT 218 Intro to Statistics (hours met in ACE).....	0

NUTR 253 Cultural Aspects of Food & Nutrition or SOCI 200 Women in Contemporary Society or SOCI 217 Nationality & Race Relations (hours met in ACE) .....	0
PSYC 181 Intro to Psycho .....	4
MATH 101 College Algebra or higher, trigonometry or calculus .....	3
Supporting Sciences.....	37-40

BIOC 431 Biomolecules & Metabolism .....	4
BIOS 213 & 213L Human Physiology & Lab .....	4
BIOS 214 Human Anatomy .....	5
BIOS 312 & 314 Fundamentals of Microbiology & Lab.....	4
CHEM 109 General Chemistry I or CHEM 113 Fundamental Chemistry I .....	4

CHEM 110 General Chemistry II (4 cr) or CHEM 114 Fundamental Chemistry II & 116 Quantitative Chemistry Lab (5 cr) .....	4-5
PHYS 141 Elementary General Physics I and PHYS 142 Elementary General Physics II (5 cr ea) or PHYS 211 General Physics I and PHYS 212 General Physics II (4 cr ea) .....	8-10
Professional Supporting Courses .....	8-11

Select from any of the following:	
BIOC 432 Gene Expression & Replication (2 cr)	
BIOS (any course 200 or above)	
CHEM (any course 200 or above)	
FDST (any course 400 or above)	
MATH 102 Trigonometry (or higher)	
NUTR 484 Physiology of Exercise (3 cr)	
PHIL 213 Medical Ethics (3 cr)	
PHYS (any course 200 or above)	
PSYC 380 Abnormal Psychology (3 cr)	
VBMS (any course 300 or above)	

Electives.....	9-15
Total .....	120

### 4. Dietetics/Journalism and Mass Communications

The dietetics/journalism and mass communications option provides an opportunity for students to combine an interest in journalism with a major in dietetics.

Please refer to the Dietetics Option (page 276) for Didactic Program in Dietetics requirements and additional information.

This option provides the registered dietitian with additional media-related employment opportunities. Students must meet requirements for enrollment in College of Journalism and Mass Communication courses. The minimum of 139 credit hours required for graduation are met as follows.

### Achievement-Centered Education (ACE)

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Achievement-Centered Education.....	31-32
ACE 1: Written Texts Incorporating Research & Knowledge Skills Select one course.....	3
ACE 2: Communication Skills Select one course.....	3

CEHS 200 Families, Schools & Communities (hours met in ACE) .....	0
EDPS 459 Statistics Methods or STAT 218 Intro to Statistics (hours met in ACE).....	0
NUTR 253 Cultural Aspects of Food & Nutrition or SOCI 200 Women in Contemporary Society or SOCI 217 Nationality & Race Relations (hours met in ACE) .....	0
PSYC 181 Intro to Psycho .....	4

ACE 3: Mathematical, Computational, Statistical or Formal Reasoning Skills Met with professional requirement EDPS 459 or STAT 218	3
ACE 4: Study of Scientific Methods & Knowledge of the Natural & Physical World Met with DPD entrance requirement CHEM 109	4
ACE 5: Study of Humanities Select one course	3
ACE 6: Study of Social Sciences Met with professional requirement CEHS 200	3
ACE 7: Study of the Arts to Understand Their Context & Significance Select one course	3
ACE 8: Ethical Principles, Civics & Stewardship & their Importance to Society Met with professional requirement JOUR 487	3
ACE 9: Global Awareness of Knowledge of Human Diversity through Analysis of an Issue Met with DPD entrance requirement NUTR 253	3
ACE 10: Integration of Abilities & Capacities in a Creative or Scholarly Product Department designated course	3-4
<b>DPD Entrance Requirements</b>	<b>22</b>
CHEM 109 General Chemistry I	4
CHEM 110 General Chemistry II	4
BIOL 101 & 101L General Biology & Lab or BIOS 102 Cell Structure & Function or BIOS 103 Organismic Biology (hours met in ACE)	0
NUTR 100 Nutrition, Exercise & Health	3
NUTR 150 Foundations in Nutrition & Health Promotion	1
NUTR 244 & 245 Scientific Principles of Food Preparation & Lab	4
NUTR 250 Human Nutrition & Metabolism	3
NUTR 251 Nutrition Through the Life Cycle	3
NUTR 253 Cultural Aspects of Food & Nutrition (hours met in ACE)	0
<b>Professional Requirements</b>	<b>51-55</b>
Nutrition and Health Sciences	32
<i>Only grades of C or above will count toward graduation requirements for NUTR courses.</i>	
NUTR 344 Food & Nutrition for Healthy Living	3
NUTR 356 Nutrition Education in the Community	3
NUTR 370 Food Production Management	3
NUTR 371 Applied Food Production Lab	1
NUTR 402 Facts & Fiction in Fitness & Foods	3
NUTR 450 Medical Nutrition Therapy I	3
NUTR 452 Medical Nutrition Therapy II	3
NUTR 452L Medical Nutrition Therapy II Lab	1
NUTR 453 Nutrition & Fitness Communication Strategies	3
NUTR 455 Advanced Nutrition	3
NUTR 470 Cost Control for Foodservice	2
NUTR 473 Organization & Administration of Foodservice	3
NUTR 490 Professional Preparation for Careers in Dietetics	1
Supporting Courses	4-7
CEHS 200 Families, Schools & Communities (hours met in ACE)	0
EDPS 459 Statistics Methods or STAT 218 Intro to Statistics (hours met in ACE)	0
PSYC 181 Intro to Psycho	4
MATH 101 College Algebra or higher, trigonometry or calculus (Math requirement waived if placed above MATH 101 on Math Placement Exam)	0-3
Supporting Sciences	15-16
BIOC 321 & 321L Elements of Biochemistry & Lab or BIOC 431 Biomolecules & Metabolism I	4
BIOS 111 The Biology of Microorganisms (4 cr) or BIOS 312 & 314 Fundamentals of Microbiology & Lab (4 cr) or NUTR 372 Food Safety & Sanitation (3 cr)	3-4
BIOS 213 & 213L Human Physiology & Lab or ASCI 240 Anatomy & Physiology of Domestic Animals	4
CHEM 251 & 253 Organic Chemistry & Lab	4

<i>Select one of the following Journalism and Mass Communications Emphasis Areas</i>	
<b>Advertising Emphasis</b>	<b>35</b>
ADVT 251 Principles of Strategic Communications	3
ADVT 283 Writing for Strategic Communications	3
ADVT 333 Strategic Communications Graphics	3
ADVT 357 Strategic Communications Research & Strategy	3
ADVT 460 Media Planning & Strategy	3
ADVT 489 Advertising & Public Relations Campaigns	3
JOUR 101 Principles of Mass Media	3
JOUR 142 Visual & Aural Literacy	2
JOUR 486 Mass Media Law	3
JOUR 487 Mass Media & Society (hours met in ACE)	0
Journalism electives	6
<b>Broadcasting News Emphasis</b>	<b>35</b>
BRDC 369 News Videography	3
BRDC 370 Broadcast News Writing	3
BRDC 372 Advanced Reporting for Broadcasting	3
JOUR 101 Principles of Mass Media	3
JOUR 142 Visual & Aural Literacy	2
JOUR 162 Visual & Aural Literacy II	3
JOUR 350 NewsNetNebraska	3
JOUR 486 Mass Media Law	3
JOUR 487 Mass Media & Society (hours met in ACE)	0
NEWS 202 Beginning Reporting	3
Journalism electives	6
<b>Broadcasting Production Emphasis</b>	<b>35</b>
BRDC 227 Principles of Audio Production	3
BRDC 228 Television Production	3
BRDC 359 Cinematography-Videography	3
BRDC 360 Broadcast Writing	3
BRDC 362 Advanced Production	3
JOUR 101 Principles of Mass Media	3
JOUR 142 Visual & Aural Literacy	2
JOUR 162 Visual & Aural Literacy II	3
JOUR 486 Mass Media Law	3
JOUR 487 Mass Media & Society (hours met in ACE)	0
Journalism electives	6
<b>News Editorial Emphasis</b>	<b>35</b>
JOUR 101 Principles of Mass Media	3
JOUR 142 Visual & Aural Literacy	2
JOUR 162 Visual & Aural Literacy II	3
JOUR 350 NewsNetNebraska	3
JOUR 486 Mass Media Law	3
JOUR 487 Mass Media & Society (hours met in ACE)	0
NEWS 201 Principles of Editing	3
NEWS 202 Beginning Reporting	3
NEWS 302 Beat Reporting	3
Select one of the following:	3
NEWS 303 Advanced Editing (3 cr)	
NEWS 404 Digital News Photography (3 cr)	
A 400-level reporting course in NEWS sequence (NEWS 401, 498, JOUR 444) (3 cr)	
NEWS electives	6

## 5. Nutrition, Exercise and Health Science

The Nutrition, Exercise and Health Science option is designed for those students interested in planning, conducting and managing health-related fitness and wellness programs in a variety of settings. Graduates are prepared to enter a variety of health/fitness/recreation-related positions such as: fitness/wellness programs provided by corporations for their employees; fitness, health assessment, and cardiac rehabilitation programs provided by hospitals or medical clinics; programs provided by YMCA's, private health clubs and commercial fitness clubs; government or private agencies which provide health or fitness assessment or lifestyle behavior modification programs

for employees or other groups of individuals; and community recreation centers and other health, fitness or lifestyle-related endeavors. The nutrition, exercise and health science option provides an appropriate vehicle for premedical, pre dental, prechiropractic and prephysical therapy majors who may be able to obtain a degree in nutrition and simultaneously meet entrance requirements for a professional program. The minimum of 120 credit hours required for graduation is to be met as follows.

### Achievement-Centered Education (ACE)

All UNL students who are following the 2009-10 bulletin will be required to complete a minimum of 3 hours of approved course work in each of the 10 designated ACE Student Learning Outcome (SLO) areas which are described on page 17 of this bulletin. **It is highly recommended that students contact their adviser prior to registering for ACE classes** in order to insure that each of the class selections are in the best interest of the students' academic program.

	Hours
<b>Achievement-Centered Education</b>	<b>31</b>
ACE 1: Written Texts Incorporating Research & Knowledge Skills Select one course	3
ACE 2: Communication Skills Select one course	3
ACE 3: Mathematical, Computational, Statistical or Formal Reasoning Skills Met with professional requirement EDPS 330	3
ACE 4: Study of Scientific Methods & Knowledge of the Natural & Physical World Met with professional requirement BIOS 103	4
ACE 5: Study of Humanities Select one course	3
ACE 6: Study of Social Sciences Met with professional requirement CEHS 200	3
ACE 7: Study of the Arts to Understand Their Context & Significance Select one course	3
ACE 8: Ethical Principles, Civics & Stewardship & their Importance to Society Select one course	3
ACE 9: Global Awareness of Knowledge of Human Diversity through Analysis of an Issue Met with professional requirement NUTR 253	3
ACE 10: Integration of Abilities & Capacities in a Creative or Scholarly Product Department designated course	3
<b>Professional Requirements</b>	<b>77-80</b>
Nutrition and Health Sciences	45
<i>Only grades of C or above will count toward graduation requirements for NUTR courses.</i>	
NUTR 100 Nutrition, Exercise & Health	3
NUTR 150 Foundations in Nutrition & Health Promotion	1
NUTR 244 Scientific Principles of Food Preparation	3
NUTR 245 Scientific Principles of Food Preparation Lab	1
NUTR 250 Human Nutrition & Metabolism	3
NUTR 251 Nutrition Through the Life Cycle	3
NUTR 253 Cultural Aspects of Food & Nutrition (hours met in ACE)	0
NUTR 344 Food & Nutrition for Healthy Living	3
NUTR 384 Biomechanics Human Movement	3
NUTR 401 Health Behavior	3
NUTR 402 Facts & Fiction in Fitness & Foods	3
NUTR 452 Medical Nutrition Therapy or NUTR 456 Clinical Exercise Physiology	3
NUTR 453 Nutrition & Fitness Communication Strategies	3
NUTR 455 Advanced Nutrition	3
NUTR 484 Physiology of Exercise	3
NUTR 486 Exercise Testing & Exercise Programming in Adult Fitness & Cardiac Rehabilitation	4

NUTR 488 Practicum in Exercise & Health Behavior Planning .....	3
Fitness .....	3
FITN 180 Intro to Personal & Group Exercise...1	
FITN 222 Intro to Personal Training.....2	
Supporting Courses.....4-7	
CEHS 200 Families, Schools & Communities ( <i>hours met in ACE</i> ) .....	0
EDPS 330 Measurements & Evaluation in Nutrition, Fitness & Health Promotion ( <i>hours met in ACE</i> ) .....	0
PSYC 181 Intro to Psycho .....	4
MATH 101 College Algebra or higher, trigonometry or calculus ( <i>Math requirement waived if placed above MATH 101 on Math Placement Exam</i> ) .....	0-3
Supporting Sciences .....	25
BIOC 321 & 321L Elements of Biochemistry & Lab .....	4
BIOS 103 Organismic Biology ( <i>hours met in ACE</i> ).....0	
BIOS 213 & 213L Human Physiology & Lab .....	4
BIOS 214 Human Anatomy ( <i>grade of C or higher is required</i> ) .....	5
CHEM 109 General Chemistry I.....4	
CHEM 110 General Chemistry II.....4	
CHEM 251 & 253 Organic Chemistry & Lab.....4	
Electives.....	9-12

## 6. Athletic Training Education

Athletic training is the art and science of treating athletic injuries. The Commission on Accreditation of Athletic Training Education (CAATE) develops and maintains guidelines for colleges and universities to provide an education for athletic training and verifies that those standards have been met. The University of Nebraska-Lincoln Athletic Training Program is currently granted accreditation status by the CAATE.

The underlying philosophy of this program is the same as with all other components of the University of Nebraska athletic medicine program. The athletic training education program is dedicated to providing students with educational programming that is recognized as excellent. It is dedicated to providing students with opportunities to have clinical experiences with teams noted for excellence, in facilities noted for excellence. It is also expected that students will display excellence in academic and clinical settings, and will adhere to the highest standards as put forth in the National Athletic Trainers Association Code of Professional Ethics. The University of Nebraska athletic training education program is dedicated to the continual assessment of our program and our students in order to maintain our standards.

The Athletic Training Education Program is housed in the Department of Nutrition and Health Sciences. Completion of the entire program constitutes a major field of study. Students completing the course of study are eligible to sit for the National Athletic Trainers Association Board of Certification Examination.

Students are required to earn a B- or higher in ATHT 145 in order to continue in the program. All other ATHT courses must be a C+ or higher and must average at least 3.0 to remain in good standing in the program and graduate. **The minimum grade requirements for other courses vary. Students are strongly encouraged to contact the advising center for a complete program description.**

Admission to the Athletic Training Education Program is competitive. Included in athletic training education are six semesters of required clinical

internship. The minimum of 120 credit hours required for graduation is to be met as follows.

### Achievement-Centered Education (ACE)

All UNL students who are following the 2009-10 bulletin will be required to complete a minimum of 3 hours of approved course work in each of the 10 designated ACE Student Learning Outcome (SLO) areas which are described on page 17 of this bulletin. **It is highly recommended that students contact their adviser prior to registering for ACE classes** in order to insure that each of the class selections are in the best interest of the students' academic program.

	Hours
Achievement-Centered Education.....31	
ACE 1: Written Texts Incorporating Research & Knowledge Skills Select from: ENGL 101, 150, 151; JGEN 200, 300....3	
ACE 2: Communication Skills Select from: ALEC 102 or COMM 109.....3	
ACE 3: Mathematical, Computational, Statistical or Formal Reasoning Skills Met with professional requirement EDPS 330 or 459 ( <i>grade of C or higher is required</i> ) .....	3
ACE 4: Study of Scientific Methods & Knowledge of the Natural & Physical World Met with professional requirement BIOS 101 & 101L or BIOS 102 ( <i>grade of C or higher is required</i> ) .....	4
ACE 5: Study of Humanities Select one course.....3	
ACE 6: Study of Social Sciences Met with professional requirement CEHS 200 .....	3
ACE 7: Study of the Arts to Understand Their Context & Significance Select one course.....3	
ACE 8: Ethical Principles, Civics & Stewardship & their Importance to Society Select one course.....3	
ACE 9: Global Awareness of Knowledge of Human Diversity through Analysis of an Issue Select one course.....3	
ACE 10: Integration of Abilities & Capacities in a Creative or Scholarly Product Department designated course.....3	
<b>Professional Requirements.....81-82</b>	
Athletic Training .....	35
<i>A grade of C+ or higher and an overall GPA of 3.0 is required in all ATHT courses unless otherwise indicated.</i>	
ATHT 145 Intro to Athletic Training ( <i>grade of B- or higher is required</i> ).....3	
ATHT 146 First Aid, Treatment, & Management of Athletic Injuries ( <i>grade of B- or higher is required</i> ) .....	3
ATHT 245 Organization & Administration of Athletic Training .....	3
ATHT 246 Prevention of Athletic Injuries.....3	
ATHT 249 Therapeutic Modalities.....3	
ATHT 345 Evaluation of Athletic Injuries .....	4
ATHT 346 Rehabilitation & Reconditioning.....4	
ATHT 445 Advanced Studies in Athletic Training.....3	
ATHT 446 Medical Aspects of Athletic Training.....3	
ATHT 247 Clinical Education I.....1	
ATHT 248 Clinical Education II.....1	
ATHT 347 Clinical Education III.....1	
ATHT 348 Clinical Education IV.....1	
ATHT 447 Clinical Education V .....	1
ATHT 448 Clinical Education VI.....1	
Nutrition and Health Sciences.....13	
<i>Only grades of C or above will count toward graduation requirements for NUTR courses.</i>	
NUTR 100 Nutrition, Exercise & Health ( <i>grade of C or higher is required</i> ).....3	
NUTR 150 Foundations in Nutrition & Health Promotion.....1	
NUTR 250 Human Nutrition & Metabolism ( <i>grade of C+ or higher is required</i> ).....3	
NUTR 384 Biomechanics Human Movement ( <i>grade of C+ or higher is required</i> ).....3	

NUTR 484 Physiology of Exercise ( <i>grade of C+ or higher is required</i> ) .....	3
Supporting Courses.....9	
ATHC 279 Coaching Effectiveness & Psychological Components of Sports Performance ( <i>grade of C+ or higher is required</i> )..3	
CEHS 200 Families, Schools & Communities ( <i>hours met in ACE</i> ) .....	0
EDPS 330 or 459 Statistics Methods ( <i>grade of C or higher is required</i> ) ( <i>hours met in ACE</i> ).....0	
PSYC 181 Intro to Psychology ( <i>grade of C+ or higher is required</i> ) .....	4
MATH 102 Trigonometry ( <i>grade of C or higher is required</i> ).....2	
Supporting Sciences.....21-22	
BIOS 101 & 101L General Biology & Lab or BIOS 102 Cell Structure & Function ( <i>grade of C or higher is required</i> ) ( <i>hours met in ACE</i> ) ....0	
BIOS 213 & 213L Human Physiology & Lab ( <i>grade of C+ or higher is required</i> ).....4	
BIOS 214 Human Anatomy ( <i>grade of C+ or higher is required</i> ) .....	5
CHEM 109 General Chemistry I.....4	
CHEM 110 General Chemistry II.....4	
PHYS 141 Elementary General Physics or PHYS 151 Elements of Physics.....4-5	
<b>Electives.....10-11</b>	

## Bachelor of Science Degree in Hospitality, Restaurant and Tourism Management

The bachelor of science in hospitality, restaurant and tourism management is offered by the College of Education and Human Sciences and the College of Agricultural Sciences and Natural Resources. The Hospitality, Restaurant and Tourism Management Program prepares individuals to serve as entry level managers and directors of hospitality operations by providing an excellent foundation in hospitality, leadership, and business. Students complete a minor in leadership and communication.

The program integrates hospitality marketing strategies, communications and financial management into a curriculum focused on managing facilities and operations that provide hospitality services to the public.

Students select from five emphasis areas offered by the College of Education and Human Sciences: Food and Beverage; Lodging; Event Planning; Human Resources; Public Relations; see the College of Agricultural Sciences and Natural Resources section for Ecotourism and Parks and Recreation.

The minimum of 120 credit hours required for graduation, which includes two 150 employment experiences early in their program and a 3-credit-hour internship completed at the end of the academic program, is met as follows:

### Achievement-Centered Education (ACE)

All UNL students who are following the 2009-10 bulletin will be required to complete a minimum of 3 hours of approved course work in each of the 10 designated ACE Student Learning Outcome (SLO) areas which are described on page 17 of this bulletin. **It is highly recommended that students contact their adviser prior to registering for ACE classes** in order to insure that each of the class selections are in the best interest of the students' academic program.

	Hours
<b>Achievement-Centered Education.....</b>	<b>31</b>
ACE 1: Written Texts Incorporating Research & Knowledge Skills Select one course.....	3
ACE 2: Communication Skills Select one course.....	3
ACE 3: Mathematical, Computational, Statistical or Formal Reasoning Skills Select one course.....	3
ACE 4: Study of Scientific Methods & Knowledge of the Natural & Physical World Select one course (CHEM 105 for Food & Beverage only).....	4
ACE 5: Study of Humanities Select one course.....	3
ACE 6: Study of Social Sciences Met with professional requirement CEHS 200.....	3
ACE 7: Study of the Arts to Understand Their Context & Significance Select one course.....	3
ACE 8: Ethical Principles, Civics, & Stewardship & their Importance to Society Select one course.....	3
ACE 9: Global Awareness of Knowledge of Human Diversity through Analysis of an Issue Select one course.....	3
ACE 10: Integration of Abilities & Capacities in a Creative or Scholarly Product Department designated course.....	3
<b>Human Sciences Core.....</b>	<b>6</b>
CEHS 200 Families, Schools & Communities.....	3
HRTM 479 Perspectives on the Hospitality Industry.....	3
<b>Professional Requirements Hospitality Management Core .....</b>	<b>22-24</b>
Only grades of C or above will count toward graduation requirements for HRTM and NUTR Hospitality Management courses	
HRTM 171 Intro to Hospitality, Restaurant, and Tourism Management.....	3
ACCT 201 Introductory Accounting I (3) and ACCT 202 Introductory Accounting II (3) or ACCT 306 Survey of Accounting (4).....	4-6
ALEC 102 Interpersonal Skills for Leadership or ALEC 202 Leadership Development in Small Groups & Teams.....	3
ALEC 302 Dynamics of Effective Leadership in Organizations.....	3
ALEC 410 Environmental Leadership: Historical & Ethical Perspectives.....	3
ALEC 466 Leadership & Diversity in Organizations & Communities.....	3
BLAW 371 Legal Environment or BLAW 372 Business Law I or AECN/357 Natural Resources & Environmental Law.....	3
<b>Common Emphasis Area Core.....</b>	<b>23</b>
Only grades of C or above will count toward graduation requirements for HRTM and NUTR courses.	
HRTM 172 Field Experience in Hospitality Management I.....	1
HRTM 173 Field Experience in Hospitality Management II.....	1
HRTM 374 Guest Services Management.....	3
HRTM 476 Internship in Hospitality Management.....	3
ALEC 305 Presentation Strategies.....	3
ECON 211 Principles of Macroeconomics.....	3
ECON 212 Principles of Microeconomics.....	3
MRKT 341 Marketing or AECN 225 Agribusiness & Food Products Marketing.....	3
NUTR 100 Nutrition, Exercise & Health.....	3
<b>HRTM EMPHASIS AREA: Select one from A-E.</b>	
Only grades of C or above will count toward graduation requirements for HRTM and NUTR Hospitality courses.	
<b>A. Food and Beverage .....</b>	<b>38-39</b>
HRTM 289 Intro to the Event Industry.....	3
HRTM 373 Catering.....	3
HRTM 472 Fine Food & Wine.....	3
HRTM 474 Food & Beverage Management.....	3
HRTM 477 Hospitality Facility Planning & Purchasing.....	3
CHEM 105 Chemistry & The Citizen I.....	4
FDST 201 Chemistry of Food (2 cr) or NUTR 244 & 245 Scientific Principles of Food Prep (3 cr) & Lab (1 cr) .....	2-4
FINA 361 Finance.....	3
NUTR 370 Food Production Management or NUTR 343 Foodservice Application in Meat Culinology® .....	3
NUTR 371 Applied Food Production Lab.....	1
NUTR 372 Food Safety & Sanitation.....	3
NUTR 470 Cost Control for Foodservice.....	2
Complete Leadership Communications 18 hr minor by selecting from ALEC 388, 407, 414, 477, 488 .....	3
Electives for Food and Beverage .....	0-3
<b>B. Lodging .....</b>	<b>37-39</b>
HRTM 280 Intro to Tourism .....	3
HRTM 285 Intro to the Lodging Industry .....	3
HRTM 289 Intro to the Event Industry .....	3
HRTM 474 Food & Beverage Management.....	3
HRTM 477 Hospitality Facility Planning & Purchasing .....	3
HRTM 485 Advanced Lodging Operation .....	3
HRTM 489 Advanced Event Operations or HRTM 373 Catering.....	3
NUTR 370 Food Production Management or NUTR 343 Foodservice Application in Meat Culinology® .....	3
NUTR 372 Food Safety & Sanitation .....	3
NUTR 471 Vines, Wine & You or HRTM 472 Fine Food & Wine.....	3
Complete Leadership Communications 18 hr minor by selecting from ALEC 388, 407, 414, 477, 488 .....	3
Electives for Lodging .....	4-6
<b>C. Event Planning.....</b>	<b>37-39</b>
HRTM 280 Intro to Tourism .....	3
HRTM 285 Intro to the Lodging Industry .....	3
HRTM 289 Intro to the Event Industry .....	3
HRTM 373 Catering .....	3
HRTM 474 Food & Beverage Management .....	3
HRTM 477 Hospitality Facility Planning & Purchasing .....	3
HRTM 489 Advanced Event Operations .....	3
NUTR 370 Food Production Management or NUTR 343 Foodservice Application in Meat Culinology® .....	3
NUTR 372 Food Safety & Sanitation .....	3
NUTR 471 Vines, Wine & You or HRTM 472 Fine Food & Wine .....	3
Complete Leadership Communications 18 hr minor by selecting from ALEC 388, 407, 414, 477, 488 .....	3
Electives for Event Planning .....	4-6
<b>D. Public Relations/Tourism .....</b>	<b>37-39</b>
HRTM 280 Intro to Tourism .....	3
HRTM 285 Intro to the Lodging Industry or HRTM 289 Intro to the Event Industry or HRTM 373 Catering .....	3
HRTM 474 Food & Beverage Management or HRTM 485 Advanced Lodging Operations or HRTM 489 Advanced Event Operations .....	3
HRTM 478 Tourism Resources & Development .....	3
NUTR 471 Vines, Wine & You .....	3
JOUR 101 Principles of Mass Media .....	3
JOUR 102 The Art of Writing or JGEN 120 Basic Business Communications .....	3
JGEN 200 Technical Communications I or JGEN 300 Technical Communications II .....	3
MRKT 347 Marketing Communications Strategy .....	3
ADVT 251 Principles of Strategic Communication .....	3
ALEC 412 Multimedia Application for Education/Training .....	3
Complete Leadership Communications 18 hr minor by selecting from ALEC 388, 407, 414, 477, 488 .....	3
Electives for Public Relations .....	4-6
<b>E. Human Resources .....</b>	<b>37-39</b>
HRTM 280 Intro to Tourism .....	3
HRTM 285 Intro to the Lodging Industry .....	3
HRTM 289 Intro to the Event Industry .....	3
HRTM 485 Advanced Lodging Operations or HRTM 474 Food & Beverage Management .....	3
HRTM 489 Advanced Event Operations .....	3
NUTR 370 Food Production Management or NUTR 343 Foodservice Application in Meat Culinology® or HRTM 373 Catering .....	3
NUTR 471 Vines, Wine & You or HRTM 472 Fine Food & Wine .....	3
MNGT 361 Personnel/Human Resources Management or EDAD 421 Foundations of Human Resource Development .....	3
MNGT 461 [I] Advanced Personnel/Human Resource Management or MNGT 464 [I] Human Resources Planning or EDAD 422 Instructional Design in Human Resource Development .....	3
FINA 307 Individual Risk Management & Insurance .....	3

ALEC 412 Multimedia Applications for Education & Training.....	3
Complete Leadership Communications 18 hr minor by selecting from ALEC 388, 407, 414, 477, 488 .....	3
Electives for Human Resources .....	1-3

## Courses of Instruction

### Athletic Training (ATHT)

145. Introduction to Athletic Training (3 cr) Prereq: Open to freshmen and sophomores only.

Introduction to preparation and work of the certified athletic trainer and to the profession and professional expectations and requirements. Observational and laboratory experiences.

146. First Aid, Treatment, and Management of Athletic Injuries (3 cr) Lec, lab. Prereq: ATHT 145.

Role of the athletic trainer in providing first aid and care to the injured athlete. Emergency medical care systems and personnel, emergency planning, and first aid treatment techniques. Standard first aid and cardiopulmonary resuscitation (CPR).

235. First Aid and Care of the Athlete (3 cr)

Instruction in first aid and CPR plus theory and practice of conditioning, taping, and rehabilitation of minor injuries.

245. Organization and Administration of Athletic Training (3 cr) Prereq: ATHT 146 and permission; parallel ATHT 247.

Supporting the daily activities of athletic trainers. Legal concepts, forms and record keeping, drug testing, insurance, concepts of financial management, facility management, and personnel management.

246. Prevention and Care of Athletic Injuries (3 cr) Prereq: ATHT 245; parallel ATHT 248.

The athletic trainer's duties and function in dealing with the prevention of athletic injuries through administering physical examinations, analyzing sports risk, supervising physical conditioning, properly fitting pads and equipment, and monitoring environmental conditions.

247. Clinical Education I (1 cr) Lab, fld. Prereq: ATHT 245.

Organization skills in athletic training. Demonstration and practice of skills in: daily training room operations, administration of physical examinations, practice of common skills found within the domains of athletic training, and use of appropriate wound care technique.

248. Clinical Education II (1 cr) Fld. Prereq: ATHT 246.

Prevention skills in athletic training. Demonstration and practice of skills in: use of various devices and techniques necessary to screen and evaluate athletes fitness and health; use of commercial conditioning equipment; collecting climatic data; fitting equipment; and the application of taping, wrapping, splints, and braces.

249. Therapeutic Modalities (3 cr) Lec 2, lab 1. Prereq: PHYS 141 or 151.

Theoretical and practical guidelines for using light, hydrotherapy, thermal energy, electrotherapeutic equipment, TENS, traction, and manual treatment techniques.

345. Evaluation of Athletic Injuries (4 cr) Lec, lab. Prereq: ATHT 246; parallel ATHT 347.

Knowledge and skills needed by the athletic trainer to conduct a thorough evaluation of athletic injuries and illnesses for the purpose of formulating an impression of the injury so that proper care and disposition of the injury may be achieved.

346. Rehabilitation and Reconditioning (4 cr) Lec, lab. Prereq: ATHT 345 and parallel ATHT 348.

Planning and implementation of comprehensive rehabilitation and/or reconditioning programs for athletes. Physiological response to trauma, the healing cycle, evaluation of goals and objectives and the principles of therapeutic exercise and therapeutic modalities.

347. Clinical Education III (1 cr) Fld. Prereq: ATHT 345 and parallel ATHT 346.

Evaluation skills in athletic training. Demonstration and practice of skills in: taking the history of an injury; identifying objective signs of injury through observation, palpation, range of motion, and "special tests"; and incorporating findings into an effective clinical evaluation.

**348. Clinical Education IV** (1 cr) Fld. Prereq: ATHT 347 and parallel ATHT 346.  
Rehabilitation skills in athletic training. Demonstration and practice of skills in: the use of manual muscle testing; goniometry; use of ambulatory aids; application of clinical modalities; use of exercise in the recovery from injury/illness.

**[IS] 445/845. Advanced Studies in Athletic Training** (3 cr) Prereq: ATHT 346. Parallel: ATHT 447.  
Current philosophical and ethical problems in the field of athletic training, and advanced treatment techniques.

**446. Medical Aspects of Athletic Training** (3 cr) Prereq: ATHT 445 and parallel ATHT 448.  
Recent and current medical research and its application to treatment of injuries sustained by participation in athletics. Identification and application of methods of staying abreast of medical advances in prevention and treatment of injuries.

**447. Clinical Education V** (1 cr) Fld. Prereq: Parallel ATHT 445. Advanced skills in athletic training 1. Demonstration and practice of advanced skills in evaluation, treatment, and rehabilitation of athletic injury including isokinetic testing; Proprioceptive Neuromuscular Facilitation (PNF) techniques; and joint mobilization.

**448. Clinical Education VI** (1 cr) Fld. Prereq: ATHT 447 and parallel ATHT 446.  
Advanced skills in athletic training 2. Demonstration and practice of skills in the evaluation of athletic injury and illness. Evaluation of common general medical conditions.

## Nutrition (NUTR)

**[ES][IS] 100. Nutrition, Exercise and Health** (3 cr) Lec 3. Use of "Blackboard" required.

Positive health behaviors. Nutrition, physical activity, lifetime weight control, and other lifestyle factors known to improve short term and long term health risks. Practical methods for assessing, improving, and maintaining behaviors to reduce the health risks associated with both the college-age population and the general adult population.

**[ES] 131. The Science of Food** (CHEM, FDST 131) (3 cr) Lec 3. For course description, see FDST 131.

**150. Foundations in Nutrition and Health Promotion** (1 cr) Pass/No Pass only.

Philosophy and goals of academic programs, curricula, certifications, career opportunities and graduate programs.

**170. Emergency Health Care** (3 cr)

Concepts, principles, and legal aspects of emergency care, cardiorespiratory emergencies, hemorrhage control, wounds, shock, heat injuries, and other medical emergencies. Considers the epidemiological factors related to accident causation.

**201. Elements of Health** (3 cr)

Scientific foundation of personal health and the role of behavior in advancing individual levels of health. Principles of disease prevention in understanding the basic elements of accident prevention, substance abuse, nutrition, mental health, family planning, infection control, chronic disease prevention, sexually transmitted diseases, and organization of health services.

**205. Asian Martial Culture** (3 cr)

Theoretical and experiential analysis of the martial arts of Asia from historical, anthropological, educational, philosophical, cultural, religious, political, and sociological perspectives and their impact on contemporary Asian and global society.

**213. Meat Specifications and Procurement** (ASCI 213) (3 cr)

Lec 3. ASCI/NUTR 213 is for those students who have an interest in a career in Culinary Science, Meat Science, and/or Dietetics. For course description, see ASCI 213.

**230. Peer Health Education** (1-5 cr) Prereq: Permission.

Role of the health aide as a health educator in the maintenance and promotion of the health of college students, including techniques of educating individuals to enhance their own health. Students serve as health aides in UNL residence units to gain experience in applying these techniques.

**[ES] 244. Scientific Principles of Food Preparation** (3 cr) Lec 3. Prereq: Sophomore standing.  
Chemical, physical, sensory, and nutritional principles of food preparation.

**[ES] 245. Scientific Principles of Food Preparation Laboratory** (1 cr) Lab 3. Prereq: NUTR 244 or parallel.  
Application of chemical, physical, sensory, and nutritional principles of food preparation.

**250. Human Nutrition and Metabolism** (3 cr) Lec 3. Prereq: 4 hours chemistry or biological sciences.  
Introduction to nutrient function in the body, nutrient chemistry and energy metabolism. Role of nutrients in health and disease.

**[IS] 251. Nutrition Through the Life Cycle** (3 cr II) Lec 3. Prereq: NUTR 250 or parallel.  
Influence of normal physiological stress on nutritional requirements throughout the life cycle: pregnancy, lactation, growth, and aging.

**(ACE 9) [ES][IS] 253. Cultural Aspects of Food and Nutrition** (3 cr II) Lec 3. Prereq: NUTR 100 or 250.  
The influences of culture on food and nutrition practices.

**255. Special Topics in Health** (2 cr) Prereq: NUTR 201.  
Series of minicourses devoted to specific content areas of health:  
A. Consumer Health  
N. Stress and Tension Reduction

**297. Professional Practicum Experiences II** (TEAC, EDPS, SPED 297) (1-4 cr, max 12) *An accompanying seminar is included where the professional role of the teacher is discussed.*  
For course description, see TEAC 297.

- A. Elementary (1-4 cr, max 4) Parallel EDPS 250.
- B. Elementary (1-4 cr, max 4) Parallel TEAC 351.
- I. Secondary Art (1-4 cr, max 4)
- J. Secondary Business Education (1-4 cr, max 4)
- M. Secondary Industrial Education (1-4 cr, max 4)
- N. Secondary Language Arts (1-4 cr, max 4)
- O. Secondary Marketing Education (1-4 cr, max 4)
- P. Secondary Mathematics (1-4 cr, max 4)
- Q. Middle Level (1-4 cr, max 4)
- R. Secondary Modern Languages (1-4 cr, max 4)
- V. Secondary Science (1-4 cr, max 4)
- W. Secondary Social Science (1-4 cr, max 4)

**298. Special Topics in Nutritional Science and Dietetics** (1-6 cr, max 6) Prereq: As announced by department.  
Topics vary.

**299. Independent Study** (1-5 cr) Prereq: 6 hrs in major department or closely related areas and permission. *Work supervised and evaluated by departmental faculty members.*  
Individual projects in research, literature review, or creative production.

**343. Meat Culinology® III: Foodservice Applications** (ASCI 343) (3 cr II) Lec 3. Prereq: ASCI/NUTR 210 or 213 or 310.  
Cookery principles and methods role in maintaining meat yield and quality characteristics. Cookery techniques to maximize guest satisfaction and insure foodservice and/or restaurant financial integrity. Flavor enhancement and cookery technology application in center of the plate concept development.

**[IS] 344. Food and Nutrition for Healthy Living** (3 cr I) Lec 2. Prereq: NUTR 100 or 250; NUTR 244 and 245.  
Role of nutrition and physical activity in healthy living. Application of current health promotion guidelines.

**[IS] 351. School Health Issues** (3 cr I) Lec 3.  
Prevalence and etiology of health behaviors among children and teens. Organization, development, and legal aspects of school health programming.

**[IS] 356. Nutrition Education in the Community** (3 cr II) Lec 3. Prereq: NUTR 100 and 250; NUTR 251 or parallel.  
Overview of community nutrition. Assessment of community needs and services; policy formation; techniques for developing and delivering theory-based nutrition education.

**370. Food Production Management** (3 cr) Lec 3.  
Application of food production and purchasing principles in foodservice management.

**371. Applied Food Production Laboratory** (1 cr) Lab 3. Prereq: NUTR 244 and 245.  
Application of theoretical knowledge and quality assessment is provided in university or community laboratory setting.

**372. Food Safety and Sanitation** (FDST 372) (3 cr I) Lec 3. Prereq: One course in chemistry and one course in biological sciences.  
For course description, see FDST 372.

**384. Biomechanics of Human Movement** (3 cr I, III) Lec 2. Prereq: Junior standing; BIOS 214.  
Anatomical and mechanical principles as related to human movement.

**399. Independent Study** (1-6 cr, max 6) Prereq: Permission.

**[IS] 401. Health Behavior** (3 cr II) Lec 3. Prereq: Junior standing. Social, psychological, and cultural factors that influence the adoption, maintenance, and modification of health behaviors in communities.

**[IS] 402. Facts and Fiction in Fitness and Food** (3 cr I, II) Lec 3. Prereq: Senior standing and NUTR major  
The application of educated judgement to accept or reject the claims made by persons who present themselves as "experts" in health and fitness. Exercise methods, exercise prescription, commonly used food and nutritional supplements, and fact versus fiction in lifetime weight control.

**403/803. Physiological Foundations of Health and Disease** (3 cr)

Topical review of current concepts of health and disease including homeostasis, bioenergetics, epidemiology, and the major chronic and infectious diseases.

**405. Health Promotion Strategies at the Workplace** (3 cr)

Skills and knowledge necessary to provide leadership in the designing, implementation, and evaluation of work site health promotion programs.

**427. Field Experience in Health Education** (1-6 cr)

Using the community as a laboratory the student observes, participates in, and practices the processes of public health and health education.

**[IS] 430/830. Nutritional Anthropology** (ANTH 430/830) (3 cr) Lec 3. Prereq: ANTH 242 or equivalent.  
For course description, see ANTH 430/830.

**441/841. Functional Properties of Food** (FDST 441/841) (3 cr) Lec 2, lab 3. Prereq: NUTR 244, 245, and BIOC 321; or FDST 448.

Relationship of structure and functionality of ingredients in food systems.

**445/845. Experimental Foods** (FDST 445/845) (3 cr) Lec, lab.

Prereq: NUTR 244 and 245; BIOC 321.  
Introduction to food research. Application of research techniques to selected problems.

**449. Culinology® Research Experience** (3 cr) Fld. Prereq: Senior standing; NUTR 441 or 445 or FDST 448; Culinology® major. Pass/No Pass only.  
Supervised individual professional Culinology® research experience in product development.

**450. Medical Nutrition Therapy I** (3 cr) Lec 3. Prereq: BIOC 321 and 321L, or BIOC/BIOS/CHEM 431; BIOS 213 or ASCI 240.  
Nutrition assessment, nutrition support, documentation of nutrition services and medical terminology.

**[ES][IS] 452. Medical Nutrition Therapy II** (3 cr II) Prereq: NUTR 344 and 450.  
Nutrition in the disease state. Physiological and biochemical basis of medical nutrition therapy.

**452L. Medical Nutrition Therapy II Laboratory** (1 cr II) Prereq: For Dietetics major; parallel NUTR 452.  
Application of nutrition care process.

**453. Nutrition and Fitness Communication Strategies** (3 cr I, II) Lec 3. Prereq: NUTR 344.  
Application of behavior change and counseling theories to individual clients. Data assessment and interpretation, and developing goals and/or outcomes to facilitate health behavior changes.

**454. Peer Nutrition Education** (2 cr II) Lec, lab. Prereq: Junior standing; COMM 109; NUTR 100.  
Practical experience in developing skills in nutrition for health promotion and nutrition education.

**[ES][IS] 455. Advanced Nutrition** (3 cr) Lec 3. Prereq: BIOC 321 and 321L, or BIOC/BIOS/CHEM 431; BIOS 213 or ASCI 240, or parallel. Biochemical and physiological aspects of human nutrition. Nutrient transport, storage and utilization under various metabolic states and relationships to the development of chronic diseases.

**456/856. Clinical Exercise Physiology** (3 cr I, II) Lec 3. Prereq: BIOS 214; NUTR/BIOS 484/884; NUTR 486/886. Cardiovascular, pulmonary, metabolic, pharmacologic, endocrinologic, renal, neurologic, inflammatory, and orthopedic aspects of clinical exercise physiology as they relate to exercise testing and programming.

**457/857. Classroom and Outreach Experiences in Food and Nutrition** (1-3 cr, max 3) Fld. Supervised classroom or outreach experiences in educational or community settings.

**458/858. Nutrition and Exercise** (3 cr) Lec 3. Prereq: Senior standing; 6 hrs CHEM or BIOS; a course in physiology; NUTR 250. The synergistic effects of proper nutrition and exercise on health and physical performance. Overview of normal nutrition. The influence of dietary components and exercise on chronic disease development.

**470/870. Cost Control for Foodservice** (2 cr) Lec 2. Prereq: NUTR 370. Principles of cost control for foodservice. Integration of cost control and foodservice/restaurant management principles which influence financial integrity. Utilization of the computer as a tool to enhance decision making capabilities.

**471. Vines, Wines and You** (HORT 471/871) (3 cr II) Lec, Lab. Prereq: 6 hrs science or equivalent experience; 21 years of age or older. *Proof of age is required.* For course description, see HORT 471/871.

**[IS] 473/873. Organization and Administration of Foodservice** (3 cr) Lec 3. Prereq: NUTR 370. Organizational, administrative, and human relations concepts to foodservice. Utilization of computer applications in administration of a foodservice facility.

**480/880. Introduction to Functional Electrocardiography** (3 cr) Lec, lab. Prereq: NUTR/BIOS 484 and NUTR 486/886. Theory and application of electrocardiography in graded exercise testing.

**484/884. Physiology of Exercise** (BIOS 484/884) (3 cr) Prereq: 12 hrs BIOS including BIOS 213 or equivalent, and BIOS 214. Effects of physical activity on the circulatory, respiratory, and other physiological processes.

**[IS] 486/886. Exercise Testing and Exercise Programming in Adult Fitness and Cardiac Rehabilitation** (4 cr) Prereq: NUTR/BIOS 484/884; EDPS 459/859 or NUTR 330. In-depth analysis and development of the techniques and knowledges prerequisite for certification in adult fitness and cardiac rehabilitation as prescribed by the American College of Sports Medicine.

**488. Practicum in Exercise and Health Behavior Planning** (3 cr I, II) Lec 2. Prereq: NUTR 453 and 486/886. Practical experience in exercise testing and analysis and planning of health and fitness programs for individuals.

**490. Professional Preparation for Careers in Dietetics** (1 cr) Lec 1. Prereq: Senior standing. *Pass/No Pass only*. Professional requirements in order to become a registered dietitian. Types of supervised practice experiences available and assistance in application process. Career options, professional organizations, and current issues in the dietetic profession.

**492. Nutrition Problems** (1-6 cr, max 6) Prereq: NUTR 455 or equivalent, and permission. Individual problems may be selected from diet therapy, animal feeding, metabolism studies, or surveys.

**493. Workshop Seminar** (1-12 cr, max 12)

**496/896. Independent Study** (1-5 cr) Prereq: 12 hrs in major related areas; permission. *Supervised and evaluated by departmental faculty members.*

Individual projects in research, literature review, or creative production.

**497. Student Teaching** (1-14 cr, max 14) Fld. Prereq: Admission by application; completion of all required methods courses and practica, with minimum grades of C+ (2.33) per course. ( See "Admission to Student Teaching" on page 287.) *Pass/No Pass only.* For course description, see TEAC 497.

- E. Elementary Physical Education (1-10 cr)
- K. Secondary Health (1-10 cr)
- U. Secondary Physical Education (1-10 cr)

**498/898. Research Experiences** (1-5 cr) Prereq: Senior standing and permission.

Participation in an ongoing research project. Select from foods, human nutrition education, small animal, or survey research areas.

**499H. Honors Thesis** (3 cr) Prereq: Good standing in the University Honors Program or by invitation. Conduct a scholarly research project and write a University Honors Program or undergraduate thesis.

**800. Contemporary Nutrition** (3 cr) Prereq: 3 hrs undergraduate nutrition and 6 hrs undergraduate natural science or permission.

**805. Research Methods** (3 cr) Lec 3. Prereq: Graduate standing.

**812. Multimedia Applications for Education and Training** (ALEC 412/812) (3 cr) Lec/lab.

**820. Molecular Nutrition** (2 cr) Prereq: BIOC 831.

**821. Molecular Nutrition Techniques** (3 cr) Prereq: BIOC 831; NUTR 820 recommended.

**\*830. Measurement and Evaluation in Physical Education** (EDPS 830) (3 cr)

**859. Nutrition: A Focus on Life Stages** (3 cr) Lec 3. Prereq: 3 hours undergraduate nutrition and 6 hours undergraduate natural science or permission.

**\*869. History and Philosophy of Public Health** (3 cr)

**\*870. Behavioral Foundations of Health Education** (3 cr)

**\*871. Contemporary Approaches to Health Education** (3 cr) Prereq: HHPG 870.

**875. Applied Dietetic Practice and Concepts** (6 cr) Prereq: Admission to Dietetic Internship.

**\*890. Workshop Seminar** (1-12 cr, max 12)

**\*893. Workshop Seminar** (1-12 cr, max 12)

**\*896. Independent Study** (1-6 cr) Prereq: Permission.

**\*899. Masters Thesis** (6-10 cr)

Refer to the Graduate Bulletin for 900-level courses.

## Hospitality, Restaurant and Tourism Management (HRTM)

**171. Introduction to Hospitality, Restaurant, and Tourism Management** (3 cr) Lec 3. *HRTM 171 is 'Letter grade only.'* Historical, behavioral, societal, business aspects of and career opportunities in restaurant, lodging, tourism and recreation management.

**172. Field Experience in Hospitality Management I** (1 cr) Fld. Prereq: HRTM major. *HRTM 172 is open to HRTM majors only. HRTM 172 is 'Pass/No Pass only.'*

Supervised individual professional experience with a qualified cooperating practicing professional in service (front-of-the-house) within hospitality management.

**173. Field Experience in Hospitality Management II** (1 cr) Fld. Prereq: HRTM major. *HRTM 173 is open to HRTM majors only. HRTM 173 is 'Pass/No Pass only.'*

Supervised individual professional experience with a qualified cooperating practicing professional in service (back-of-the-house) within hospitality management.

**270. Leisure in American Life** (3 cr) Lec 3.

Social and psychological influences on free time use in America

**271. Outdoor Recreation in American Life** (3 cr) Lec 3. Outdoor recreation demand and supply. Role of federal land-managing agencies, environmental and management issues.

**280. Introduction to Tourism** (3 cr) Lec 3. Prereq: HRTM 171. *HRTM 280 requires field trips. HRTM 280 is 'Letter grade only.'* Historical, behavioral, societal, and business aspects of travel and tourism industry with emphasis on nature-based tourism and agri-tourism.

**285. Introduction to Lodging Industry** (3 cr) Lec 3. Prereq: HRTM 171. *HRTM 285 is 'Letter grade only.'* Fundamentals of the lodging industry. Characteristics and management of hotel, motel, or resort properties. Basic accounting, housekeeping, engineering, front desk, and guest services.

**289. Introduction to Event Industry** (3 cr) Lec 3. Prereq: HRTM 171. *HRTM 289 is 'Letter grade only.'* Fundamentals of meetings, events, expositions, and conventions (MEEC). Roles of organizations and people in businesses that comprise the MEEC industry.

**373. Catering** (3 cr) Lec 2, lab 1. Prereq: NUTR 370 and NUTR 372. *HRTM 373 requires field trips. HRTM 373 is 'Letter grade only.'* Concepts in catering organization and service. Menu development, event ambience, cost control, and client satisfaction.

**374. Guest Services Management** (3 cr) Lec 3. Prereq: HRTM 171. *HRTM 374 is 'Letter grade only.'* Principles of guest service management in hospitality and tourism organizations.

**472. Fine Food and Wine** (3 cr, I) Lec 3. Prereq: 21+ years of age; HRTM major; HRTM 374. *HRTM 472 is open to HRTM majors only; proof of age is required. HRTM 472 is not open to auditors.* Preparation techniques, garnishing, and presentation of gourmet foods for fine dining restaurants. Survey and responsible service of domestic and international wines to enhance food characteristics.

**474/874. Food and Beverage Management** (3 cr) Lec 3. Prereq: NUTR 372 and HRTM 374. *HRTM 474 is 'Letter grade only.'* Functioning and operation of foodservice units. Principles of food and beverage management.

**476/876. Internship in Hospitality Management** (3 cr) Fld 40. Prereq: Permission of the Hospitality Management Committee. *HRTM 476/876 requires a total of 400 hours of full-time employment. HRTM 476 is 'Letter grade only.'* Approved professional experience as an entry-level manager in the emphasis area of the hospitality industry.

**477/877. Hospitality Facility Planning and Purchasing** (3 cr) Lec 3. Prereq: NUTR/ASCI 343 or NUTR 370. *HRTM 477 is 'Letter grade only.'* Hospitality facility concept development and planning. Selection and specifications of food, equipment and furnishings resulting in effective resource utilization.

**478/878. Tourism Resources and Development** (3 cr) Lec 3. Prereq: HRTM 280. *HRTM 478 is 'Letter grade only.'* Planning and development of local, state, regional, national, and international tourist attractions and resources. Analysis of economic impacts and the role of attractions and/or resources in tourism development.

**479. Perspectives on the Hospitality Industry** (3 cr) (UNL, UNO) Lec 3. Prereq: Senior standing; HRTM major. *HRTM 479 is 'Letter grade only.'* Integration of hospitality core and content courses into managerial and leadership practice within the hospitality, restaurant and tourism industry.

**485/885. Advanced Lodging Operations** (3 cr) Lec 3. Prereq: HRTM 171 and HRTM 285. *HRTM 485/885 requires field trips to local lodging facilities. HRTM 485 is 'Letter grade only.'* Senior management techniques required to operate a lodging facility; applying strategic and critical thinking with case study analysis to solve problems.

**489/889. Advanced Event Operations** (3 cr) Lec 3. Prereq: HRTM 171 and HRTM 289. *HRTM 489/889 requires field trips to local conference and meeting centers. HRTM 489 is 'Letter grade only.'* The management and operation of events. Design, marketing, and promotion efforts. Identifying sponsors. Marketing to attendees, exhibitors, and other participants.

**495/895. Hospitality Management Study Tour** (1-6 cr, max 6 III) Fld. Prereq: NUTR 370. *Number of credit hours earned in HRTM 495/895 is determined by tour length, assignments, and sites visited. HRTM 495/895 requires off-campus travel.* Broadening perspective and developing an understanding of the hospitality industry through visits. Tours to hospitality facilities; national food and equipment shows; food processors; equipment manufacturers; and trade exchanges.

## Recreational Activities and Fitness

Recreational activities and fitness courses are taught by the Office of Campus Recreation. All recreational activities and fitness courses are one credit hour or may be taken for zero credit with the permission of the Office of Campus Recreation.

Unless otherwise noted, all courses are open to men and women students and are graded on a Pass/No Pass basis.

The prerequisite (unless noted otherwise) for all recreational activities and fitness level II, III and IV courses is: "completion of the preceding level" or "having previous experience in the area and permission".

**NOTE:** Recreational activities and fitness courses are listed in alphabetical order within subject-area.

### Aquatics (FITN)

100E, 110E, 120E, 130E. Scuba Diving I, II, III, IV

100G, 110G, 120G. Swimming I, II, III

100N, 110N, 120N. Aerobic Swimming I, II, III

120J. Lifeguard Training

**160. First Aid, CPR, and AED** (1 cr) Lec 1. *Knowledge and skills required for the examination to be certified in First Aid.* Recognize and give basic care for injuries, sudden illnesses, breathing and cardiac emergencies in adults, children, and infants. Coronary Pulmonary Resuscitation (CPR) and using an Automated External Defibrillator (AED) for victims of sudden cardiac arrest until advanced medical personnel arrive and take over.

**170. First Aid, CPR, and AED Instructor** (2 cr) Lec 2. Training and examination to become a certified instructor to teach First Aid, Standard First Aid (SFA), Coronary Pulmonary Resuscitation (CPR), and Automated External Defibrillator (AED) programs. First Aid, SFA, SFA with AED, adult CPR, adult CPR and/or AED, child CPR, infant CPR, infant and child CPR, AED essentials, and injury-control.

### Combatives (COMB)

101A. Fencing

101B, 111B. Judo I, II

101D, 111D, 121D, 131D. Karate I, II, III, IV

101J, 111J. Kendo I, II

### Conditioning (FITN)

102D, 112D, 122D, 132D. Weight Training I, II, III, IV

102E, 112E, 122E, 132E. Aerobics I, II, III, IV

102P, 112P, 122P, 132P. Conditioning

103N. Aerobic Dance

### Fitness (FITN)

**102B. Physical Fitness I** (1 cr)

Assessment of current life-style habits; healthful living behaviors; design and practice appropriate health behaviors, with emphasis on physical fitness.

**112B. Physical Fitness II** (1 cr) Prereq: FITN 102B or NUTR 100 or 201. Continuation of the development of the fitness component designed in FITN 102B; additional elements of physical and mental health; design and implement health behavior change programs.

**113N. Group Exercise Instructor Prep** (2 cr I, II) Lec 2. *Pass/No Pass only.*

Theoretical and practical knowledge in group exercise leadership in preparation for a national certification exam. Guidelines for fitness level identification; sensitivity to individual needs and interests; and awareness of safe exercise methods.

**122B. Physical Fitness III** (2 cr I, II) Lec 2. Prereq: FITN 102B or 112B or equivalent. *Pass/No Pass only.*

Theoretical knowledge and practical skills in preparation for a national certification exam in personal training. Guidelines for instructing safe, effective, and purposeful exercise, essentials of client-trainer relationship, conducting health and fitness assessments, and designing and implementing appropriate exercise programming.

**132B. Physical Fitness IV** (1 cr) Prereq: Permission.

**180. Introduction to Personal and Group Exercise** (1 cr) Lec 1. *FITN 180 is open to the Nutrition Exercise and Health Science (NEHS) option students only. FITN 180 is 'Letter grade only.'* Weight training techniques and group exercise formats for improving muscular strength and endurance and aerobic capacity.

**222. Introduction to Personal Training** (2 cr) Prereq: FITN 180; BIOS 213, 213L, and 214.

Theoretical knowledge and practical skills related to the field of personal training.

### Individual and Dual Activities (INDV)

105A, 115A, 125A. Adaptives I, II, III

105B, 115B. Bowling I, II

105D, 115D. Golf I, II

105E, 115E, 125E. Recreational Games I, II, III

105K, 115K, 125K, 135K. Individual Activity I, II, III, IV

### Marksmanship (MARK)

106A, 116A. Archery I, II

### Outdoor Education (ODED)

100A. Canoeing I (1 cr)

**100N. Challenge Course: Instructor** (2 cr) Lec 2. *Weekend field experience is mandatory.*

Introduction to becoming a challenge course instructor. Leadership and group dynamics. Fundamentals for safely and effectively leading a group through a full day of low and high element activities to build group cohesion, teamwork, and trust.

103A. Climbing I

**105A. Kayaking I** (1 cr) Lec 1.

Introduce the novice kayaker to sea kayaking and marine-based travel. Build fundamental paddling skills.

107A, 117A. Angling I, II

107B, 117B. Backpacking I, II

**107E. Cycling: Indoor** (1 cr I, II) Lec 1. *Pass/No Pass only.*

Cycling techniques for developing cardiovascular fitness and muscular endurance.

**109B. Wilderness First Aid** (1 cr) Lec 1.

Basic emergency medical skills needed for urban and back country travel. Fundamental skills needed for recognition, treatment, and prevention of medical emergencies.

**110A. Canoeing II** (1 cr) Lec 1. Prereq: Beginner or intermediate canoeist. Solid fundamental paddling skills required. *Four-day field experience required.*

Build on ODED 100A Canoeing I. Canoe travel on moving water. Experience class I and/or II white water.

**110B. Wilderness: First Responder** (2 cr) Lec 2.

Advanced emergency medical techniques and extended patient care skills needed for back country trips, expeditions, and world travel. Build and refine skills needed for recognition, treatment, and prevention of medical emergencies.

**113A. Climbing II** (1 cr) Lec 1. Prereq: Intermediate climber. *Weekend field experience is mandatory.*

Introduction to the challenge course and/or vertical climbing rescue techniques for the intermediate climber. Fundamentals for safely assisting stranded or injured climbers in vertical environments.

**117E, 127E. Cycling II, III**

**127B. Backpacking III** (1 cr) Lec 1. Prereq: Intermediate experience in backpacking and/or back country travel.

Experiences for the intermediate backpacker and/or back country traveler. Build and refine back country leadership skills based upon the Wilderness Education Association 18-point curriculum on winter skills.

### Racquet Sports (RACS)

108A, 118A. Badminton I, II

108B. Handball

108D. Squash

108E, 118E. Tennis I, II

108K, 118K, 128K. Racquetball I, II, III

### Prephysical Therapy

**This is neither a major nor a minor.** Students wishing to follow a program of studies leading to admission to physical therapy school can receive advising assistance through the Department of Nutrition and Health Sciences. The requirements for admission to a physical therapy program vary from school to school, but generally include work in biological science, chemistry, physics, mathematics, and psychology.

Prephysical therapy is not a major in any college at UNL. Accordingly, the student must select a major from another field if he/she wishes to earn a bachelors degree.

## Department of Textiles, Clothing and Design

**Chair: Professor Michael James**

**Professors:** Crews, James, Kean, Miller, Niemeyer, Trout, Weiss, Yang

**Associate Professor:** Vigna

**Assistant Professors:** Gao, Ha, McLeod

**Professors Emeritus:** Hillestad, Laughlin

**Senior Lecturers:** Easley, Horvay

The department provides the educational framework for careers in the global textile and apparel industry. **Students have the opportunity to specialize in areas of:**

- Textiles and Apparel Design
- Merchandising
- Textile Science
- Textiles, Clothing and Design/Journalism and Mass Communications

**Students in merchandising** receive a minor in marketing. **Textile science students** may receive a minor in chemistry (see adviser). Students may receive an Entrepreneurship Emphasis along with their specialized area of study.

Courses are planned for students with professional interests in one of the four areas of specialization. Lower level courses serve students from other disciplines with interest in this area. Selected courses serve as professional support for related disciplines and background for graduate study. Please note the following department specific requirements:

1. No required course work in the textiles, clothing and design department can be taken Pass/ No Pass by textiles, clothing and design majors. Should a student have earned a P in one of the courses prior to starting the option, the P will be reviewed.
2. Substitution and waiver forms must be processed prior to the semester of graduation and must be processed prior to enrolling in the substituted course. All course prerequisites must be met prior to enrollment.
3. All students are required to participate in either an internship or study tour experience, or both, during their program. Textiles, clothing and design majors have the opportunity to study abroad at institutions such as the American Intercontinental University in London, for both the summer and semester study abroad programs.

## Graduate Study

The advanced degrees of master of science or master of arts in textiles, clothing and design, and master of science and PhD in human sciences with emphasis in the area of textiles, clothing and design are available. The department offers a "hybrid" MA degree via Distance Education in Textile History/Quilt Studies. For details, see the *Graduate Studies Bulletin* or contact the Graduate Chair, Textiles, Clothing and Design Department.

## Achievement-Centered Education (ACE)

All UNL students who are following the 2009-10 bulletin will be required to complete a minimum of 3 hours of approved course work in each of the 10 designated ACE Student Learning Outcome (SLO) areas which are described on page 17 of this bulletin. **It is highly recommended that students contact their adviser prior to registering for ACE classes** in order to insure that each of the class selections are in the best interest of the students' academic program.

Hours

- |  |   |
|--|---|
| ACE 1: Written Texts Incorporating Research & Knowledge Skills<br>Select one course.....                 | 3 |
| ACE 2: Communication Skills<br>Select one course.....  | 3 |
| ACE 3: Mathematical, Computational, Statistical or Formal Reasoning Skills<br>Select one course.....     | 3 |
| ACE 4: Study of Scientific Methods & Knowledge of the Natural & Physical World<br>Select one course..... | 4 |
| ACE 5: Study of Humanities<br>Select one course.....   | 3 |
| ACE 6: Study of Social Sciences<br>Select one course.....  | 3 |
| ACE 7: Study of the Arts to Understand Their Context & Significance<br>Select one course.....            | 3 |
| ACE 8: Ethical Principles, Civics, & Stewardship & their Importance to Society<br>Select one course..... | 3 |

- |   |   |
|---|---|
| ACE 9: Global Awareness of Knowledge of Human Diversity through Analysis of an Issue<br>Select one course.....        | 3 |
| ACE 10: Integration of Abilities & Capacities in a Creative or Scholarly Product<br>Department designated course..... | 3 |

**All undergraduate students in the Department of Textiles, Clothing and Design** take the following:

- Human Sciences Core
- Textiles, Clothing and Design introductory courses in years 1 & 2; specialization courses in one of the three options in years 3 & 4
- Textiles, Clothing and Design common completion courses in years 3 & 4 (exception is TXCD/ Journalism and Mass Communications option)

Hours

- |  |           |
|--|-----------|
| <b>Introductory Courses (Years 1 and 2) .....</b>  | <b>18</b> |
| TXCD 123 Clothing & Human Behavior .....   | 3         |
| TXCD 143 Visual Literacy: Art & Design.....  | 2         |
| TXCD 206 Textiles [E] .....  | 3         |
| TXCD 212 Product Development I: Apparel Analysis & Development.....  | 3         |
| TXCD 213 Merchandising I: Textile & Apparel Industry.....  | 3         |
| <i>Select from one of the following options .....</i>  | <i>4</i>  |
| Textile and Apparel Design and TCD/Journalism & Mass Media choose:   |           |
| TXCD 140A Visual Literacy Lab: Analysis &/or Composition (2 cr) and 140B Visual Literacy Lab: Perceptual Drawing (2 cr) (4 cr) |           |
| Merchandising and Textile Science choose:  |           |
| TXCD 141A Visual Literacy Lab: Color (2 cr) and 141B Visual Literacy Lab: Speculative Drawing (2 cr) (4 cr)                    |           |

*Students select specialization by the time textile, clothing and design introductory courses are complete.*

- |   |           |
|---|-----------|
| <b>Common Completion Courses (Years 3 &amp; 4) .....</b>                | <b>14</b> |
| <i>Select from one of the following options .....</i>                   | <i>3</i>  |
| Merchandising, Textile Science, and TXCD/ Journalism & Mass Media take: |           |
| TXCD 405 Advanced Textiles (3 cr)                                       |           |
| Textile and Apparel Design take:  |           |
| TXCD 406 Textile Testing & Evaluation (3 cr)                            |           |

- |   |   |
|---|---|
| TXCD 408 History of Textiles [I].....                                 | 3 |
| TXCD 410 Socio-Psychological Aspects [I].....                         | 3 |
| TXCD 412 Product Development III: Trend Analysis & Productivity.....  | 3 |
| TXCD 498 Internship or TXCD 492 Professional Study Tour or both ..... | 2 |

**Supporting Courses.....**

- |   |          |
|---|----------|
| AHIS 101 Intro to Art History & Criticism I .....     | 3        |
| AHIS 102 Intro to Art History & Criticism II.....     | 3        |
| <i>Select from one of the following options .....</i> | <i>4</i> |

*Textile Science choose:*

- |  |  |
|--|--|
| CHEM 109 or CHEM 113 (4 cr)  |  |
| Textile and Apparel Design, Merchandising, & TXCD/Journalism & Mass Communications choose: |  |
| CHEM 105 or CHEM 109 or CHEM 113 (4 cr)  |  |

- |  |      |
|--|------|
| CYAF 280 or CYAF 160 or CEHS 200.....                            | 3    |
| ECON 211 & 212 (6 cr) & PSYC 181 (4 cr) or SOCI 101 (3 cr) ..... | 9-10 |

*Select from one of the following options .....*

- |  |  |
|--|--|
| Textile and Apparel Design & TXCD/Journalism & Mass Communications choose:               |  |
| ECON 215 (3 cr); EDPS 459 (3 cr); MATH 104, 106, 203 (3 cr), 107 (5 cr); STAT 218 (3 cr) |  |

*Merchandising & Textile Science choose:*

- |  |   |
|--|---|
| MATH 101, 103, 104, 203 (3 cr), 107 (5 cr) |   |
| LIBR 110 .....                             | 1 |

**Textiles, Clothing and Design Specializations ....**

- |  |  |
|--|--|
| <i>(See following pages for details)</i>                     |  |
| Textile & Apparel Design (31 hrs)                            |  |
| Merchandising (18 hrs)                                       |  |
| Textile Science (15 hrs)                                     |  |
| TCD/Journalism & Mass Media-Advertising (38 hrs)             |  |
| TCD/Journalism & Mass Media-Broadcasting News (38 hrs)       |  |
| TCD/Journalism & Mass Media-Broadcasting Production (38 hrs) |  |
| TCD/Journalism & Mass Media-News Editorial (35 hrs)          |  |

**Professional Supporting Courses .....**

*(See following pages for details)*

Textile & Apparel Design (12 hrs)

Merchandising (27 hrs)

Textile Science (23-25 hrs)

All TCD/Journalism & Mass Media (0 hrs)

**Free Electives .....**

Textile & Apparel Design (13-16 hrs)

Merchandising (11-14 hrs)

Textile Science (11-16 hrs)

All TCD/Journalism & Mass Media (6-12 hrs)

**Total hours required for degree: .....**

## Entrepreneurship Emphasis

An emphasis in entrepreneurship is an option for Textiles, Clothing and Design students interested in choosing from a selection of courses offered in both the Department of Textiles, Clothing and Design and the College of Business Administration. Students should see a department adviser for detailed information.

## Please select one of the following specializations:

### 1. Textile and Apparel Design

The textile and apparel design option emphasizes basic design and textiles with an understanding of fashion theory, textile and apparel construction, computer-aided design, and basic skills, techniques, and creativity in production of textiles and apparel. Professional support is provided in business and in art and art history, theatre arts and dance, or history. The program is planned for students with professional interest in textile and apparel design, fashion illustration, visual merchandising, product development, and fiber arts.

Hours

- |  |           |
|--|-----------|
| <b>Textile and Apparel Design Specialization (Years 3 &amp; 4) .....</b> | <b>34</b> |
| TXCD 141A Visual Literacy Lab: Color .....                               | 2         |
| TXCD 141B Visual Literacy Lab: Speculative Drawing .....                 | 2         |
| TXCD 216 Apparel Design by Flat Pattern .....                            | 3         |
| TXCD 225 Surface Design on Textiles .....                                | 3         |
| TXCD 312 Product Development II: Fashion Analysis & Presentation .....   | 3         |

- |   |   |
|---|---|
| TXCD 325 Woven & Nonwoven Textile Design .....  | 3 |
| TXCD 403 Apparel Design by Draping .....        | 3 |
| TXCD 407 History of Costume [I] .....           | 3 |
| TXCD 416 Apparel Design for Industry .....      | 3 |
| TXCD 425 Advanced Design Printed Textiles ..... | 3 |
| TXCD 471 Experimental Apparel Design .....      | 3 |
| TXCD 472 Inventing the Crafted Fabric .....     | 3 |

**Professional Supporting Courses .....**

ACCT 201 Intro to Accounting .....

MRKT 341 [E] .....

*Select two courses from any of the following areas: .....*

Art (any art subject), art history, dance, theatre arts or photo journalism (JGEN 184; NEWS 404)

**Free Electives .....**

1-4

**Textiles and Apparel Design majors** must take the following classes in sequence:

TXCD 212 Product Development I

TXCD 312 Product Development II

TXCD 412 Product Development III

Optional entrepreneurship emphasis for **Textiles and Apparel Design** students is:

TXCD 123

ENTR/MNGT 321

ENTR/MNGT 422

*Select 3 hrs from the following: ENTR/MNGT 421, 432, or BSAD 491*

## 2. Merchandising

The merchandising option is planned for those students interested in the buying and selling of textile and apparel products at the manufacturing and retail levels, as well as product development, promotion and visual merchandising. The program emphasizes textiles, basic design, and provides understanding of fashion theory, as well as basic skills and techniques in production and distribution of textiles and apparel in the global society. **Students receive a minor in marketing from the UNL College of Business Administration.**

	Hours
<b>Merchandising Specialization (Years 3 &amp; 4).....</b>	<b>18</b>
TXCD 312 Product Development II: Fashion Analysis & Presentation.....	3
TXCD 313 [E] Merchandising II: Merchandise Buying & Control.....	3
TXCD 314 Visual Merchandising.....	3
TXCD 407 [I] History of Costume.....	3
TXCD 413 [I] Merchandising III: Merchandise Development & Sourcing.....	3
<i>Select 3 hrs from the following:</i> .....	3
TXCD 140A, 140B (2 hrs ea), 216, 225, 325, 406, 428 (3 hrs ea), 492 (1-6 hrs), 498 (2-6 hrs)	
<b>Professional Supporting Courses.....</b>	<b>27</b>
ACCT 201 Intro to Accounting1 .....	3
MNGT 360 [E] <sup>1</sup> or 361 .....	3
MRKT 341 [E] Marketing <sup>1</sup> .....	3
MRKT 346 [E,I] Marketing Channels <sup>1</sup> .....	3
MRKT 347 Marketing Communications Strategy <sup>1</sup> .....	3
MRKT 425 Retailing Management <sup>1</sup> .....	3
STAT 218 or EDPS 459 or ECON 215.....	3
<i>Select two courses from the following:</i> .....	6
BSAD 491; MRKT 345, 350, 426, 428, 441, 442, 443 [E], 453 [E], 458 [I], 490	
<b>Free Electives .....</b>	<b>11-14</b>

**Merchandising majors** must take the following classes in sequence:

TXCD 213 Merchandising I
TXCD 313 Merchandising II
TXCD 413 Merchandising III
TXCD 212 Product Development I
TXCD 312 Product Development II
TXCD 412 Product Development III

Optional entrepreneurship emphasis for **Merchandising** students is:

TXCD 123
Select 9 hrs from the following: ENTR/MNGT 321, 421, 422, 432, or BSAD 491

## 3. Textile Science

The textile science option emphasizes textiles, textile production, and issues concerning the global textile industry. Professional support in related sciences and business is required. The program is planned for students interested in sales, research, or management in the textile industry. It is also recommended for students who plan to go on to graduate school in either textile or related sciences. **Students are eligible to receive a minor in chemistry from the UNL College of Arts and Sciences.**

	Hours
<b>Textile Science Specialization (Years 3 &amp; 4) .....</b>	<b>15</b>
TXCD 406 Textile Testing & Evaluation .....	3
TXCD 428 Coloration.....	3
TXCD 499 Undergraduate Research.....	3
<i>Select 6 hours from the following:</i> .....	6
TXCD 140A, 140B, 216, 225, 313 [E], 325, 407 [I], 492, 498.	

<sup>1</sup> A 2.5 cumulative GPA is required for admission to this course.

<b>Professional Supporting Courses .....</b>	<b>22-25</b>
CHEM 110 or CHEM 114 [E].....	3-4
CHEM 116 or CHEM 221 [I].....	2-4
CHEM 251 or CHEM 261.....	3
CHEM 252 or CHEM 262 .....	3
CHEM 253 or CHEM 263 Lab.....	1
CHEM 254 or CHEM 264 Lab.....	1
STAT 218 or EDPS 459 or ECON 215.....	3
<i>Select 6 hrs from any of the following areas:</i> .....	6
Accounting, business law, chemistry, computer science, economics, entrepreneurship, finance, mathematics, management information systems & technology, management or physics, marketing.	
<b>Free Electives .....</b>	<b>11-16</b>
Minors may also be taken in International Studies or in Women's and Gender Studies. The student should see their adviser for more information.	
Optional entrepreneurship emphasis for <b>Textile Science</b> students is:	
TXCD 123	
ACCT 201	
MRKT 341	
Select 9 hrs from the following: ENTR/MNGT 321, 421, 422, 432, or BSAD 491	
<b>4. Textiles, Clothing and Design and Journalism and Mass Communications</b>	
This specialization is a joint program between the Department of Textiles, Clothing and Design and the College of Journalism and Mass Communications. The student combines a background in textiles including course work in textile science, textile and apparel design and merchandising, with one area of journalism (advertising, broadcasting, news-editorial). A 2.75 GPA is required for those enrolling in the journalism/advertising, broadcasting and journalism/news editorial specialization courses.	
	<b>Hours</b>
<b>Textiles, Clothing and Design (Journalism and Mass Communications Specialization) .....</b>	<b>15</b>
TXCD 312 .....	3
TXCD 314 .....	3
TXCD 407 .....	3
<i>Select two courses from the following:</i> .....	6
TXCD 216, 225, 313, 325, 406, 428, 492, 498	
<i>Select one of the following Journalism and Mass Communications Emphasis Areas</i>	
<b>Advertising Emphasis.....</b>	<b>35</b>
ADVT 251 Principles of Strategic Communications.....	3
ADVT 283 Writing for Strategic Communications.....	3
ADVT 333 Strategic Communications Graphics ..	3
ADVT 357 Strategic Communications Research & Strategy.....	3
ADVT 460 Media Planning & Strategy .....	3
ADVT 489 Advertising & Public Relations Campaigns.....	3
JOUR 101 Principles of Mass Media .....	3
JOUR 142 Visual & Aural Literacy .....	2
JOUR 486 Mass Media Law.....	3
JOUR 487 Mass Media & Society .....	3
Journalism electives .....	6
<b>Broadcasting News Emphasis .....</b>	<b>35</b>
BRDC 369 News Videography .....	3
BRDC 370 Broadcast News Writing.....	3
BRDC 372 Advanced Reporting for Broadcasting ..	3
JOUR 101 Principles of Mass Media .....	3
JOUR 142 Visual & Aural Literacy .....	2
JOUR 162 Visual & Aural Literacy II .....	3
JOUR 350 NewsNetNebraska .....	3
JOUR 486 Mass Media Law.....	3
JOUR 487 Mass Media & Society .....	3
NEWS 202 Beginning Reporting.....	3
Journalism electives .....	6
<b>Broadcasting Production Emphasis.....</b>	<b>35</b>
BRDC 227 Principles of Audio Production.....	3
BRDC 228 Television Production .....	3
BRDC 359 Cinematography-Videography .....	3
BRDC 360 Broadcast Writing .....	3
BRDC 362 Advanced Production .....	3
JOUR 101 Principles of Mass Media .....	3
JOUR 142 Visual & Aural Literacy .....	2
JOUR 162 Visual & Aural Literacy II .....	3
JOUR 486 Mass Media Law.....	3
JOUR 487 Mass Media & Society .....	3
Journalism electives .....	6
<b>News Editorial Emphasis .....</b>	<b>35</b>
JOUR 101 Principles of Mass Media .....	3
JOUR 142 Visual & Aural Literacy .....	2
JOUR 162 Visual & Aural Literacy II .....	3
JOUR 350 NewsNetNebraska .....	3
JOUR 486 Mass Media Law.....	3
JOUR 487 Mass Media & Society .....	3
NEWS 201 Principles of Editing .....	3
NEWS 202 Beginning Reporting .....	3
NEWS 302 Beat Reporting .....	3
Select one of the following:	3
NEWS 303 Advanced Editing (3 cr)	
NEWS 404 Digital News Photography (3 cr)	
A 400-level reporting course in NEWS sequence (NEWS 401, 498, JOUR 444) (3 cr)	
NEWS electives .....	6
<b>Free electives .....</b>	<b>6-12</b>

## Courses of Instruction (TXCD)

[ES] 121. Design Essentials (3 cr) Lec 2, lab 2.
Development of appreciation of beauty of line, form, color, and texture; judgment in the fine use of things pertaining to everyday living. Selecting, evaluating, and arranging many forms of art expression.
(ACE 9) [ES][IS] 123. Clothing and Human Behavior (3 cr) Lec 3.
Analysis of social, cultural, aesthetic, and economic influences on clothing and human behavior.
[ES] 123H. Honors: Clothing and Human Behavior (3 cr) Lec 3. Prereq: Good standing in the University Honors Program or by invitation.
For course description, see TXCD 123.
(ACE 2) 140A. Visual Literacy Lab: Analysis and/or Composition (ARCH, ARTP, IDES, JGEN, LARC 140A) (2 cr) Lab 6.
Prereq: ARTP: Art major or candidate for teaching endorsement in art. ARCH: Admission to the College of Architecture. IDES: Admission to the College of Architecture. JGEN: College of Journalism and Mass Communications major and 2.75 GPA. LARC: Admission to the College of Architecture. TXCD: Textiles, Clothing and Design major or minor.
For course description, see ARTP 140A.
(ACE 2) 140B. Visual Literacy Lab: Perceptual Drawing (ARCH, ARTP, IDES, JGEN, LARC 140B) (2 cr) Lab 6. Prereq: ARTP: Art major or candidate for teaching endorsement in art. ARCH: Admission to the College of Architecture. IDES: Admission to the College of Architecture. JGEN: College of Journalism and Mass Communications major and 2.75 GPA. LARC: Admission to the College of Architecture. TXCD: Textiles, Clothing and Design major or minor.
For course description, see ARTP 140B.
(ACE 2) 141A. Visual Literacy Lab: Color (ARCH, ARTP, IDES, JGEN, LARC 141A) (2 cr) Lab 6. Prereq: ARTP: Art major or candidate for teaching endorsement in art. ARCH: Admission to the College of Architecture. IDES: Admission to the College of Architecture. JGEN: College of Journalism and Mass Communications major and 2.75 GPA. LARC: Admission to the College of Architecture. TXCD: Textiles, Clothing and Design major or minor.
For course description, see ARTP 141A.
(ACE 2) 141B. Visual Literacy Lab: Speculative Drawing (ARCH, ARTP, IDES, JGEN, LARC 141B) (2 cr) Lab 6. Prereq: ARTP: Art major or candidate for teaching endorsement in art. ARCH: Admission to the College of Architecture. IDES: Admission to the College of Architecture. JGEN: College of Journalism and Mass Communications major and 2.75 GPA. LARC: Admission to the College of Architecture. TXCD: Textiles, Clothing and Design major or minor.
For course description, see ARTP 141B.

<sup>1</sup> A 2.5 cumulative GPA is required for admission to this course.

(ACE 2) **142. Visual and Aural Literacy** (ARCH, ARTP, IDES, JOUR, LARC 142) (2 cr) Lec 2, lab 2. Prereq: ARTP: Art major or candidate for teaching endorsement in art. ARCH: Admission to the College of Architecture. IDES: Admission to the College of Architecture. JOUR: College of Journalism and Mass Communications major and 2.75 GPA. LARC: Admission to the College of Architecture. TXCD: Textiles, Clothing and Design major or minor.  
For course description, see JOUR 142.

(ACE 2) **143. Visual Literacy: Art and Design** (ARCH, ARTP, IDES, JGEN, LARC 143) (2 cr) Lec 2. Prereq: ARTP: Art major or candidate for teaching endorsement in art. ARCH: Admission to the College of Architecture. IDES: Admission to the College of Architecture. JGEN: College of Journalism and Mass Communications major and 2.75 GPA. LARC: Admission to the College of Architecture. TXCD: Textiles, Clothing and Design major or minor.  
For course description, see ARTP 143.

(ACE 4) **[ES] 206. Textiles** (3 cr) Lec 2, lab 2. Prereq: Sophomore standing.  
Fibers, yarns, fabric construction, and finishes as they affect use and care.

**212. Product Development I: Apparel Analysis and Development** (3 cr) Lec 3.  
Analysis and evaluation of apparel structure. Design, style, and construction variations as related to quality, price, and performance.

**213. Merchandising I: Textile and Apparel Industry** (3 cr) Lec 3.  
Textile and apparel industry processes. Social, cultural, and economic influences on the industry.

**216. Apparel Design by Flat Pattern** (3 cr II) Stu 5. Prereq: TXCD 212.  
Creative experience in apparel design through the use of flat pattern methods.

[ES] **225. Surface Design on Textiles** (3 cr I) Stu 5. Prereq: For Merchandising or Textile Science option: ARTP/ARCH/IDES/JGEN/LARC/TXCD 141A and 141B. For Textile, Clothing and Design/Journalism and Mass Media option: ARTP/ARCH/IDES/JGEN/LARC/TXCD 140A and 140B. For Textiles and Apparel Design option: ARTP/ARCH/IDES/JGEN/LARC/TXCD 140A, 140B, 141A, 141B, and 143.  
Introduction to surface design with creative applications of printing and dyeing techniques on fabric.

**312. Product Development II: Fashion Analysis and Presentation** (3 cr I, II) Stu 6. Prereq: TXCD major. For Merchandising or Textile Science option: ARTP/ARCH/IDES/JGEN/LARC/TXCD 141A and 141B. For Textile, Clothing and Design/Journalism and Mass Media option: ARTP/ARCH/IDES/JGEN/LARC/TXCD 140A and 140B. For Textiles and Apparel Design option: ARTP/ARCH/IDES/JGEN/LARC/TXCD 140A, 140B, 141A, 141B, and 143; TXCD 206, 212, and 213.

Drawing garments and the fashion figure. Aesthetic styling and presentation, refining product specifications, and interpretations of current trends.

[ES] **313. Merchandising II: Merchandise Buying and Control** (3 cr I) Lec 3. Prereq: ACCT 201/201H/201X and 3 hrs MATH. Role and responsibilities of apparel and/or home furnishings merchandisers in a retail operation. Fundamentals of merchandise mathematics and its application to computer technology.

[IS] **314. Visual Merchandising** (3 cr II, III) Lec 3. Prereq: For Merchandising or Textile Science option: ARTP/ARCH/IDES/JGEN/LARC/TXCD 141A and 141B. For Textile, Clothing and Design/Journalism and Mass Media option: ARTP/ARCH/IDES/JGEN/LARC/TXCD 140A and 140B. For Textiles and Apparel Design option: ARTP/ARCH/IDES/JGEN/LARC/TXCD 140A, 140B, 141A, 141B, and 143; or ARCH 210.

Merchandise presentation designed to convey both image and merchandise to a target customer. The artistic and marketing functions of the retail environment.

[ES][IS] **325. Woven and Nonwoven Textile Design** (3 cr) Stu 6. Prereq: Junior standing; TXCD 206.  
Creative application of woven and non-loom textile construction techniques.

**399. Independent Study** (1-3 cr)  
Readings in current literature and individual problems.

**403/803. Apparel Design by Draping** <sup>2</sup> (3 cr, max 6) (Stu 6. Prereq: TXCD 212 and 216).  
Creative experience in designing apparel through the use of draping techniques.

**405/805. Advanced Textiles** (3 cr) Lec 2, lab 2. Prereq: TXCD 206; CHEM 105 or 109 or 113.  
Recent advances in the production and performance of fibers, yarns, finishes and dyes for textile products. Lab experiences designed to familiarize the students with standards, methods and equipment for evaluating textile product performance.

**406/806. Textile Testing and Evaluation** (3 cr) Lec 1, lab 2. Prereq: TXCD 206. *TXCD 406/806 is taught every other year. Check with adviser and/or department when planning course work.*  
Physical and chemical analysis of textiles using standard testing procedures. The calculation, interpretation, and evaluation of test results.

(ACE 5) **[ES][IS] 407/807. History of Costume** (3 cr) Lec 3. Prereq: Junior standing, AHIS 101 or 102 or 3 hrs HIST 100 or 101. Theoretical approach to the history of dress from ancient times through the twentieth century; examining dress in the context of social, economic, and artistic development of Western culture.

(ACE 5) **[ES][IS] 408/808. History of Textiles** (3 cr) Lec 3. Prereq: Junior standing, TXCD 206, AHIS 101 or 102 or 3 hrs HIST 100 or 101.

Textiles in the context of artistic, social, political, and economic developments in the cultures of Europe, Asia, Africa and the Americas. Emphasis on evolution of textile design and stylistic differences between cultures.

**[ES][IS] 410/810. Socio-psychological Aspects of Clothing** (WMNS 410A/810A) (3 cr) Lec 3. Prereq: Senior standing; 3 hrs PSYC or SOCI; TXCD 123.

Theories and research findings about the social and psychological aspects of clothing and appearance in relation to the self and others.

**412/812. Product Development III: Trend Analysis and Product Conceptualization** <sup>2</sup> (3 cr I) Lec 3. Prereq: For Merchandising option: TXCD 312, 314, and MRKT 341. For Textile and Apparel Design option: TXCD 225, 312, 403, and MRKT 341. For Textile Science option and for TXCD/Journalism and Mass Communications option: TXCD 312.  
Synthesis of processes involved in product development from product initiation to the development of market strategies. Career and portfolio development.

**[IS] 413/813. Merchandising III: Merchandise Development and Sourcing** (3 cr) Lec 3. Prereq: ACCT 201; MRKT 341 and 346; TXCD 313 and 314.

Sourcing and problems involved in the merchandising of textiles and apparel, cultural and economic aspects of textile and apparel distribution, structure of the industry, and marketing practices specific to the textile and apparel industry.

**416/816. Apparel Design for Industry** <sup>2</sup> (3 cr, max 6) Stu 6. Prereq: TXCD 212 and 216. *Creative experience.*

Designing apparel, computer-aided design, pattern making, and line development for specific markets.

**425. Advanced Design for Printed Textiles** <sup>2</sup> (3 cr) Stu. Prereq: TXCD 123 and 225.

Digital and other media for printed textiles. Design development, professional practices, and expressive and communicative concepts.

**428/828. Coloration** <sup>2</sup> (3 cr) Lec 2, lab 3. Prereq: 4 hrs CHEM and TXCD 206.

Application classes of dyes. Physical and chemical properties of dyes within each class, methods of dye-fiber association, fastness properties of dyes, and recommended application procedures.

**471. Experimental Apparel Design** (3 cr II) Stu 6. Prereq: TXCD 216; TXCD 225 or 325; TXCD 403 or 416; parallel TXCD 472.  
Advanced work in the creation of apparel as visual communication. Design conceptualization with experimentation in media, structure, technique, and presentation.

**472/872. Inventing the Crafted Fabric** (3 cr II) Stu 6. Prereq: TXCD 216 and 225; parallel TXCD 471. TXCD 325 and 403 recommended. *TXCD 472 requires a public presentation of work.*  
Advance work in creation of textiles. Design conceptualization, development and experimentation in media, structure, application, and product development.

**490/890. Workshop/Seminar** (1-3 cr, max 9) Prereq: Permission. *Presented by department faculty and visiting artists, scholars and scientists.*  
Opportunity to analyze and evaluate techniques, develop skills, or study topics of special interest.

- A. Textiles (1-3 cr)
- B. Clothing (1-3 cr)
- D. Design (1-3 cr)

**492/892. Professional Study Tour—International or Domestic** (1-6 cr, max 12) Prereq: 12 hrs textiles, clothing and design or permission. *Number of credits determined by the time spent, assignment, and sites visited.*

The textile and apparel industry. Visits to museums, showrooms, manufacturers, retail establishments in major domestic and/or foreign markets such as: Chicago, Dallas, New York City, Paris, London, and Rome.

**496/896. Independent Study** (1-5 cr per sem, max 10) Prereq: 12 hrs in textiles, clothing and design and permission.  
Individual projects in research, literature review, or creative production.

- A. Textiles (1-5 cr)
- B. Clothing (1-5 cr)
- D. Design (1-5 cr)

**498. Internship** (2-6 cr, max 6 III) Fld. Prereq: For all options: 2.5 GPA; 79 hrs completed towards degree; and 3.0 GPA in TCD courses; plus any additional prerequisites that are required for the specific option as follows. For Merchandising option: TXCD 313 and 314. For Textiles Science option: TXCD 405/805 or 406/806. For Textiles, Clothing and Design/Journalism and Mass Media option: TXCD 314 and 407/807 or 408/808 or 410/810. For Textile and Apparel Design option: TXCD 403/803 or 416/816 or 425. *TXCD 498 requires an application for the internship with the TXCD department and with the employer.*  
TXCD 498 is 'Letter grade only.'

Supervised individual professional experience with a qualified cooperative practicing professional.

**499. Undergraduate Research** (1-6 cr I, II, III) Prereq: Senior standing.

**809. Care and Conservation of Textile Collections** <sup>2</sup> (3 cr per sem, max 6) Lec 2, lab 2. Prereq: TXCD 206 or permission.  
Recommended practices for accessing, handling, storage, exhibition and preventative conservation of textiles and dress in museum collections. Philosophical and ethical issues confronting curators and collection managers.

**\*811. Textiles, Clothing and Design Problems** (1-6 cr each per sem, max 12) Prereq: 12 hrs textiles, clothing and design and permission.

- A. Textiles
- B. Clothing
- D. Design

**\*817. Textiles and Dress: A Cultural Perspective** (3 cr) Lec 3. Prereq: TXCD 206, 6 hours of history or art history; TXCD 407/807, 408/808, and ANTH 100 recommended.

**818. History of Quilts** (3 cr) Prereq: Permission.

**823. Advanced Design in Mixed Media** <sup>2</sup> (3 cr, max 6) Stu 6. Prereq: TXCD 212, 216, 312, and 803 or 816L.

**\*824. Rendering and Production of Textiles and/or Apparel** (3 cr, max 6) Studio. Prereq: Permission.

**825. Advanced Work in Digital and Other Media for Textile Design** (3 cr, max 6) (UNL) Studio 6. Prereq: TXCD 225 and 325.

**\*870. Current Issues in Textiles, Clothing and Design** (3 cr per sem, max 9) Prereq: 9 hrs textiles, clothing and design and permission.

\*873. Design Perspectives and Issues (3 cr)

\*874. Theory Development (1 cr) Lec 1.

\*875. Research Methods (3 cr) Lec 3.

\*899. Masters Thesis (6-10 cr)

\*Open only to graduate students

Refer to the *Graduate Bulletin* for 900-level courses.



# College of Engineering

**David H. Allen**, Ph.D., P.E., Dean and Professor of Engineering Mechanics

**Namas Chandra**, Ph.D., Associate Dean for Research and Graduate Programs and Professor of Engineering Mechanics

**Raymond K. Moore**, Ph.D., P.E., Associate Dean for Undergraduate Education and Professor of Civil Engineering

**Lance C. Perez**, Ph.D., Associate Dean and Associate Professor of Electrical Engineering

**John S. Thorpe**, M.S., Associate Dean for Undergraduate Programs (Omaha Campus)

## About the College

### Administrative Structure

The Dean's Offices, 114 Othmer Hall in Lincoln and 101 Peter Kiewit Institute in Omaha, ensure the general operation and direction of the College. To help students, these offices are open every working day.

The College of Engineering is subdivided into units, each under the leadership of a chairperson, department head, or director. Individual help is available for students in each unit office. Advisers assigned to students are located in the departments. A description of the programs and facilities in each department is included in subsequent sections.

### Role and Mission

The College of Engineering enthusiastically embraces its unique role as the singular intellectual and cultural resource for engineering instruction, research, and outreach within the state. The College of Engineering provides the people of

Nebraska with comprehensive engineering academic programs to fulfill their highest aspirations and ambitions.

The missions of the College of Engineering at the University of Nebraska–Lincoln are:

- to deliver relevant and challenging educational programs that attract an outstanding diverse student body, that prepare graduates for rewarding careers in their chosen professions, and that encourage graduates to extend their level of knowledge through lifelong learning;
- to conduct leading edge research that advances engineering science, and to stimulate the intellectual development and creativity of both students and faculty; and,
- to extend exemplary engineering service and to transfer knowledge that contributes to the well-being and betterment of society.

### Engineering

To meet the need for innovative engineers, the College's programs offer broad education in the physical sciences, social sciences, mathematics, information sciences, and humanities. This education is complemented by study of engineering methods of modeling, analysis, synthesis, and design in students' areas of specialization. In addition to preparing students for careers in engineering, the College's bachelors degree programs provide excellent preparation for graduate study in those fields.

### Construction Management

The profession of construction management is allied with architecture, engineering, and business administration. Construction managers

coordinate people, machines, and materials to produce (within the constraints of budget and time) buildings, highways, bridges, dams, and other structures essential to modern society. The College's construction management program provides a solid technical background, develops business knowledge, and considers ethical issues of the profession.

### Professional Licensure

The College encourages professional licensure. The majority of the College's engineering seniors take the Fundamentals of Engineering (FE) examination prior to graduation. This examination is the first step in the process of becoming a licensed professional engineer. To become a licensed professional engineer, one must pass the FE exam, have four years of experience, and pass a professional practice examination. Students may take the FE exam in the last semester of their baccalaureate program. Arrangements are made through:

Nebraska Board of Engineers and Architects  
301 Centennial Mall South  
Lincoln, Nebraska 68508

### Degree Programs

#### Undergraduate Programs on the Lincoln Campus

**Engineering.** The College offers bachelor of science degree programs in each of the following engineering fields: agricultural engineering, architectural engineering, biological systems engineering, chemical engineering, civil engineering, computer engineering, construction engineering,

electrical engineering, electronics engineering, industrial engineering, and mechanical engineering. Over 85 percent of all the engineering degrees granted in the United States during the last five years were granted in these fields. Students with interests in specialty fields such as aerospace, environmental, or biomedical engineering should seek advice in the Office of the Dean on how to incorporate such emphases into the above degree programs.

**Construction Management.** The College offers the bachelor of science degree program in construction management, a program accredited by The American Council for Construction Education.

**Double Majors.** Students can major in two departments in the college by completing all the requirements for the departmental major. Students should consult their advisers about this possibility. The student who majors in more than one department will be assigned to an adviser in each department.

## Undergraduate Programs on the Omaha Campus

**Construction Management.** The College offers the bachelor of science degree program in construction management, a program accredited by The American Council for Construction Education.

**Engineering.** The College offers bachelor of science degree programs in architectural engineering, civil engineering, computer engineering, construction engineering, and electronics engineering on the Omaha campus. First- and second-year course work is also offered on the Omaha campus in most other engineering fields through the College's pre-engineering program.

**Fire Protection Technology.** An associate degree in fire protection technology is offered through the UNL Extended Education and Outreach. The College of Engineering grants an ASET degree.

## Accreditation

The undergraduate engineering programs of the College of Engineering in Lincoln and Omaha are accredited by the Accreditation Board for Engineering and Technology (ABET). The agricultural engineering, biological systems engineering, chemical engineering, civil engineering (Lincoln and Omaha campuses), computer engineering (Lincoln and Omaha campus), electrical engineering, electronics engineering, industrial engineering, and mechanical engineering programs are accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012.

The master of architectural engineering is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012.

The construction management program is accredited by the American Council for Construction Education, 1300 Hudson Lane, Suite #3, Monroe, LA, 71201.

The new undergraduate degree program in construction engineering is not accredited. ABET accreditation activities are currently underway.

## Graduate Programs

Courses supporting several engineering graduate programs are offered both on and off campus. For details on programs leading to the masters and doctorate degrees, see the *University of Nebraska-Lincoln Graduate Studies Bulletin* and contact the appropriate department or the Office of the Dean of the College of Engineering.

Seniors in this University who have obtained prior approval of the Dean of Graduate Studies may receive up to 12 hours credit for graduate courses taken in addition to their required undergraduate work. However, these credits must be earned within the calendar year prior to receipt of the bachelors degree. (For procedures, inquire at the UNL Graduate Studies Office, 301 Canfield Administration Building.) Graduate credits earned prior to receipt of the bachelors degree may not always be accepted for transfer to other institutions as graduate work.

The MAE, MEng, MS and PhD degrees are granted by the Graduate College. Master of science degree programs are available in computer science; engineering mechanics; manufacturing systems; and agricultural, biological systems, chemical, civil, electrical, environmental, industrial and management systems, mechanical engineering and telecommunications engineering. A professional practice oriented graduate degree is offered as the master of engineering. The master of architectural engineering degree program is available only on the Omaha campus.

The master of architectural engineering degree program is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology, 111 Market Place, Suite 105, Baltimore, MD, 21202-4012.

Doctoral fields are available in agricultural and biological systems engineering, chemical and materials engineering, civil engineering, electrical engineering, engineering mechanics, industrial management systems and manufacturing engineering, mechanical engineering, computer engineering, biomedical engineering, architectural engineering and environmental engineering.

## Scholarships and Financial Aid

Each year the College awards scholarships to freshmen and upperclassmen worth more than \$750,000. Scholarship awards are made possible through generous gifts of alumni and friends and through funding by the Nebraska Legislature.

Application for UNL freshmen scholarships automatically makes you eligible for College of Engineering scholarships as well as other university awards such as the Regents and David scholarships. You must submit the UNL Application form (due January 15, prior to the beginning of the next academic year) to be eligible for College of Engineering scholarships.

A significant number of entering engineering students have academic records that qualify them for university-wide scholarship awards. Each year about 25 percent of the freshman Regent

Scholarship recipients are engineering students. Inquiry about these awards should be made at the Office of Scholarships and Financial Aid, 12 Canfield Administration Building.

A large number of scholarships are provided through local and national organizations and private donors for engineering students at the sophomore level or higher. Contact the Office of the Dean or the Office of Scholarships and Financial Aid for information regarding these awards.

A significant number of engineering students are able to find part-time employment in fields related to their interests. Other financial help is also available through the Office of Scholarships and Financial Aid.

## Student Organizations in the College

### Technical Societies

The purpose of the technical student societies is to develop in students a greater personal and professional interest and understanding of the various branches of engineering, computer science and construction management. Student branches of the major national technical and scientific societies are sponsored by the various academic programs and departments.

**Lincoln Campus.** American Institute of Chemical Engineers; The Society for Engineering in Agricultural, Food, and Biological Systems; American Society of Civil Engineers; American Society of Mechanical Engineers; Associated General Contractors; Association for Computer Machinery; Institute of Electrical and Electronic Engineers; and Institute of Industrial Engineers.

**Omaha Campus.** American Society of Civil Engineers; American Society of Heating, Refrigeration and Air-conditioning Engineers; Associated General Contractors; Institute of Electrical and Electronic Engineers; Instrumentation Society of America; Architectural Engineering Institute, and Acoustical Society of America.

**Other technical and nontechnical organizations of interest to engineering students on the Lincoln Campus:** American Society for Metals, Student Advisory Board, Institute of Transportation Engineers, National Society of Black Engineers, Society of American Military Engineers, Society of Women Engineers, and Society of Automotive Engineers.

On the **Omaha campus:** Minorities in Engineering, Society of Women Engineers, Engineering Student Advisory Board, and Architectural Engineering Student Leadership and Advisory Committee.

### Honor Societies

These are designed to recognize students who excel in scholarship and give promise of being leaders in professional areas. They are branches of national societies and are generally open upon invitation to juniors and seniors: Alpha Epsilon (agricultural engineering), Alpha Pi Mu (industrial engineering), Chi Epsilon (civil engineering, both campuses), Eta Kappa Nu (electrical engineering), Pi Tau Sigma (mechanical engineering),

Sigma Lambda Chi (construction management), Sigma Xi (scientific, all colleges), Tau Alpha Pi (engineering technology, Omaha campus), and Tau Beta Pi (all engineering).

## Grade Appeals

In the event of a dispute involving any college policies or grades, the student should appeal to his/her instructor, adviser, and department chair (in that order). If a satisfactory solution is not achieved, the student may appeal his/her case through the College Academic Appeals Committee on his/her campus.

## Application for the Diploma

Each student who expects to receive a diploma must file an application of candidacy for the diploma at the Office of Registration and Records, 107 Canfield Administration Building. Announcements about deadline dates are posted on bulletin boards and printed in the *Daily Nebraskan*.

It is the responsibility of the student to inform the Office of Registration and Records of graduation plans including address, the manner in which requirements are being completed (e.g., by correspondence, by clearance of incompletes, by enrollment at another institution, by taking special examinations, etc.), and any subsequent revision of such plans.

Failure to meet these stipulations may necessitate postponement of graduation until the next semester or summer.

## Graduation with Distinction

Students with outstanding scholastic records may obtain the special honor of graduation *With Distinction*, *With High Distinction*, or *With Highest Distinction* upon the recommendation of the faculty of the College. Check with your major department for specific requirements of each degree.

## Student Publications

*The Blueprint* is a student magazine published on the Lincoln campus and distributed to all campuses.

## Career-Related Experience

The University of Nebraska-Lincoln College of Engineering Cooperative Education Program (Co-op) provides paid academic and professional experience for students who meet academic standards and who demonstrate qualities of leadership and the ability to work with others. The program augments classroom experiences and integrates them with engineering practice. Students have predetermined periods of attendance at the University and specific periods of employment. The program takes its name from the close cooperation between the academic institution and the co-op employers, assuring that the work experience will contribute significantly to the student's overall growth and professional development. Concurrently, the participating company or agency receives numerous benefits through contact with the college and from

creative and enthusiastic students. On-the-job co-op experience usually begins after the sophomore year.

The Engineering Internship Experience is a program instituted by the College, designed to connect employers with engineering and construction management students in paid full-time summer positions.

*Students are not required to participate in Cooperative Education or Internship Experience, but will be encouraged to gain career-related experience at the undergraduate level. Other experience opportunities include part-time internships and/or working on research with a professor.*

Students seeking undergraduate employment are encouraged to attend career workshops and to attend career fairs. Often a career fair is an opportunity for employment, but also an opportunity for students and employers to "just explore".

## Engineering Research Centers

The centers are staffed by faculty and research assistants of the academic departments. The laboratory facilities of the departments are also utilized to support the research activity of the Centers. The centers actively seek government and industrial support in the form of grants and contracts for their research activities. The research conducted within the centers provides an important service to both government and industry. They are an important component of the College's graduate programs.

## Center for Communication and Information Science

The Center for Communication and Information Science is researching computers and communication systems. Among the many Center projects, researchers are developing the ability to access, transmit and share information while protecting the information from unauthorized use. Network theory, coding theory, data compression, cryptology and pattern recognition are the Center's specialties. The Center is one of seven multidisciplinary Engineering Research Centers within the College of Engineering and is funded by the Nebraska Research Initiative.

## Center for Electro-Optics

The Center for Electro-Optics, one of the Engineering Research Centers under the Nebraska Research Initiative, is researching small particle technology as well as the linear and nonlinear interactions between matter and electromagnetic radiation (lasers) at optical and microwave frequencies. Center researchers are also studying electromagnetic radiation interactions with rough surfaces, irregularly layered media, and applying the research to the use of lasers for taking remote measurements, particle sizing, optical instrumentation nozzle design, computer graphics and computer vision.

## Center for Infrastructure Research

The Center for Infrastructure Research conducts research aimed at improving the safety of the country's infrastructure. By studying

highways, roads, bridges, mass transit and railroad systems, water supply systems and waste treatment systems, Center researchers are developing ways to maintain the efficiency and improve the productivity of Nebraska's physical infrastructure. These scientists are also studying hazardous waste treatment and resource recovery systems. This Center is one of seven Engineering Research Centers within the College of Engineering and is funded under the Nebraska Research Initiative.

## Center for Laser-Analytical Studies of Trace Gas Dynamics

The Center for Laser-Analytical Studies of Trace Gas Dynamics is one of the seven Engineering Research Centers funded by the Nebraska Research Initiative. Researchers are developing tunable laser spectroscopy capabilities and studying the dynamics of trace gases, such as methane and nitrous oxide in the atmosphere. The researchers are also developing methods for collecting reliable data about the Greenhouse effect, climate change and the earth's environment. Future projects will address problems that arise in materials processing and fuel consumption by-products.

## Center for Microelectronic and Optical Materials Research

The Center for Microelectronic and Optical Materials Research, an Engineering Research Center in the College of Engineering under the Nebraska Research Initiative. The center conducts research in the areas of vapor-deposited diamond films, advanced compound semiconductors, magnetic and protective coating materials, thin film high temperature superconductors, and materials for magneto-optic recording. Center researchers are also studying ellipsometry, a nondestructive method of making measurements to determine the properties of electronic and optical materials, and carbon coatings for infrared lenses that can capture light by not letting it reflect back.

## Center for Nontraditional Manufacturing Research

Researchers with the Center for Nontraditional Manufacturing Research are developing state-of-the-art machining processes for new materials such as ceramics, superalloys, and composites. The processes studied by Center researchers include abrasive water jet machining, electrodischarge machining, and electro-chemical arc machining. These scientists are also researching adaptive control and expert systems for machining processes and surface integrity. The Center is one of the Engineering Research Centers, funded by the Nebraska Research Initiative.

## Mid-America Transportation Center

The Center conducts research and educational activities aimed at improving the design and operation of transportation facilities to maximize safety, mobility, and efficiency and minimize the negative environmental effects of transportation in Mid-America. Its research agenda focuses on traffic

operations and control, highway safety, intelligent transportation systems, and work zone traffic control and safety.

### Midwest Roadside Safety Facility

The Midwest Roadside Safety Facility conducts research in all aspects of highway design and safety. Researchers use high-speed data acquisition equipment and photography for testing and product development of guardrail and median barriers, timber, open concrete and steel bridge railings, impact attenuators, light poles and curbs. The facility, one of only a few in the United States, serves as a research and development facility for state highway departments, the Federal Highway Administration, the US Department of Agriculture Forestry Service and private industry.

### Continuing Engineering Education

In cooperation with the Extended Education and Outreach and Conferences and Institutes, the College provides continuing education to practicing engineers and technologists through short courses, workshops, conferences, and other educational programs.

The College delivers continuing education courses leading to a master of engineering degree with a concentration in engineering management. These courses are delivered online. For more details see <http://online.unl.edu>.

## Admission to the College

These policies are subject to change. Students should consult their adviser, their department chair, or the Office of the Dean if they have questions on current policies.

### College Entrance Requirements

Students wishing to be admitted to the College of Engineering must have high school credit for (one unit is equal to one high school year):

1. 4 units of mathematics: 2 of algebra, 1 of geometry, 1 of precalculus and trigonometry.
2. 4 units of English.
3. 3 units of natural science that must include 1 unit of physics and 1 unit of chemistry (chemistry requirement waived for students in construction management).
4. 2 units of a single foreign language.
5. 3 units of social studies.
6. Students having a composite ACT score of 28 or greater (or equivalent SAT score) will be admitted to the College of Engineering even if they lack any one of the following: trigonometry, chemistry, or physics.
7. Students having an ACT score of 19 or less in English (or equivalent SAT score) must take ENGL 150 or 151.

A total of 16 units is required for admission.

Entering students from high school must also have an ACT (enhanced) score of 24 or greater (or

equivalent SAT). Students who lack college entrance requirements may be admitted to the college based on ACT scores, high school rank, and high school credits, or may be admitted to Pre-Engineering status in the Division of General Studies. Pre-engineering students are advised within the College of Engineering.

Students who lack entrance units may complete precollege training by Independent Study through the UNL Extended Education, in Summer Sessions courses, or as a part of their first or second semester course loads while in the Division of General Studies or other Colleges at UNL.

### Transfer Issues

Students who transfer to the University of Nebraska-Lincoln from other colleges or universities must meet the freshman entrance requirements and have a minimum cumulative grade point average of 2.5 for Nebraska residents. Non-residents must have a minimum cumulative grade point average of 3.0 unless they are transferring from an accredited engineering program, in which case a 2.5 grade point average is acceptable. Students who do not meet this requirement must enroll in another college at the University and achieve a minimum 2.5 cumulative grade point average in the first 12 hours or more of course work taken at UNL. They may then be considered for admission to the College of Engineering.

The College of Engineering accepts courses for transfer for which a C grade or above was received. However, grades of D from the University of Nebraska at Kearney, Lincoln, or Omaha may be transferred to fulfill requirements. However, students are strongly encouraged to repeat those courses. All transfer students must adopt the curricular requirements of the undergraduate bulletin current at the time of transfer—not that in use when they entered UNL.

After being admitted to the University of Nebraska, students wishing to pursue degree programs in the College of Engineering will be classified as described below.

## College Academic Policies

### Student Classification

Students interested in the study of engineering and construction management will be classified or reclassified as follows.

### Students Who Have Been Admitted to the College of Engineering

**1. Pre-Engineering and Pre-Construction Management Students.** New students are accepted into the College of Engineering on a provisional basis for the purpose of establishing their academic credentials and firming up their career objectives. These students may take freshman- and sophomore-level courses in the College of Engineering.

Readmitted students will be initially classified as pre-engineering, and pre-construction

management students when their accumulative GPA for a total of at least 12 credit hours and most recent semester or term GPA at the University of Nebraska is at least 2.5.

Students may be reclassified to restricted status if their accumulative GPA falls below 2.4.

**2. Regular Engineering Students.** Students who have completed 43 credit hours that are applicable to the engineering degree they seek in the College of Engineering may apply for formal admission to that degree program. Those whose credit hours applicable to the degree they seek exceeds 61 must receive formal admission to an engineering degree program if they are to continue to take engineering courses taught in the College of Engineering and/or be identified with the College. Transfer students must have at least 12 credit hours of course work from the University of Nebraska on record before an application will be considered.

Students in the College of Engineering may make application to an engineering degree program during the first four weeks of the fall or spring semester. The application must be submitted with a complete record of course work. Students may select a first and second choice of a degree program on a single application and may submit no more than two applications and only in successive semesters. Applications will be judged on a competitive academic performance basis. The student should contact the department of his/her choice to determine if there are specific requirements. Admission of non-Nebraska residents may be limited to ten percent of the total.

Regular engineering students may be re-classified to a restricted status if their accumulative GPA falls below 2.4. Students may not graduate with a degree in engineering or technology while in the restricted category.

**3. Regular Construction Management Students.** Pre-construction management students must apply and be admitted to the construction management degree program after completing 30 credit hours of required course work. Students failing to be admitted to the construction management degree program prior to earning 65 credit hours may be dropped as construction management degree candidates.

Regular construction management students who fail to maintain a minimum cumulative GPA of 2.4 may be reclassified as restricted students.

### Students Who Have Not Been Admitted to the College of Engineering

Students who have not been admitted to the College of Engineering are classified as "restricted" and thus are limited in the choice of College of Engineering courses open to them.

**1. Students who have not completed admission** to UNL or UNO by the end of the week prior to general registration will be classified as restricted.

**2. Students may request reclassification** from the restricted status to pre-engineering status when:

a. All high school deficiencies have been satisfied.

b. Accumulative GPA for a total of at least 12 credit hours and most recent semester or

term GPA at the University of Nebraska is at least 2.5. Reclassification is accomplished when the student completes a "Change of Major/Change of College Form" and has it signed by the Office of the Dean. The form is available in all departmental offices, the Office of the Dean and in the Canfield Administration Building.

## Restricted Students

These students are those in the Division of General Studies or other colleges, or are those who have failed to maintain the academic standards or general policies of the College of Engineering. Restricted students are substantially limited in the choice of courses that may be taken in the College. Restricted students may:

- Retake D and F grades in College of Engineering courses on a space available basis with permission.
- Repeat a maximum of three courses in the College any one of which may be taken only twice.
- Enroll in CNST 112 and 131.
- Enroll in ENGM 220 and 324.
- Enroll in AGEN 112, BSEN 112, CIVE 112, IMSE 050, MECH 130 on a space available basis. Students admitted to the College of Engineering have priority in these two courses.
- Not enroll in ELEC 121, or ELEC 122 without approval from the respective departments.
- Enroll in ENGR 010.

## General College Policies

**General.** These policies are applicable to all students in the College of Engineering:

1. Student priority for entrance into classes for which demand exceeds available class space will be based on accumulative GPA. This priority will be applied at the end of early registration (when applicable).
2. Students may repeat a maximum of three engineering courses. Students may take any one engineering course a maximum of two times.
3. At least 30 of the last 36 credit hours needed for a degree must be registered for and completed at UNL or UNO while identified with the College of Engineering. This means that, practically speaking, the last year of a student's work must be spent in residence. Credit earned during study abroad may be used toward degree requirements if students participate in prior approved programs and register through UNL (see "Study Abroad and Exchange Programs" on page 20).
4. Pass/No Pass courses: Students in the College of Engineering must take ENGR 010, 020 and 400 with the grading option Pass/No Pass. In addition, students may take up to 12 credit hours of courses in the humanities and social sciences on a Pass/No Pass basis. Students in the College of Engineering may not take any other required courses or technical elective courses with the grading option of Pass/No Pass.
5. Credits for "English for Foreign Students who are Non-native Speakers" at UNL and "English

as a Second Language" at UNO are not applicable to degree programs in the College of Engineering.

6. Six hours of English composition may be substituted for the written communications requirement in all degree programs.
7. Students who enroll at UNL, UNO, or UNK under the academic year (Fall, Spring, Summer) of this bulletin must fulfill the requirements stated in this UNL bulletin or in any other UNL bulletin which is published while they are enrolled in the College, provided that the bulletin is no more than 10 years old at the time of graduation. A student must, however, meet the graduation requirements from one bulletin only. A student may not choose a portion from one bulletin and the remainder from another bulletin.

**Undergraduate Seminars.** All freshmen engineering students are required to attend ENGR 010, Freshman Engineering Seminar, a zero credit course. This seminar is designed to provide students with a variety of information useful throughout their attendance in the UNL College of Engineering. Sophomore engineering students are required to attend ENGR 020, Sophomore Engineering Seminar, a zero credit course. The Sophomore Engineering Seminar provides information on career planning, interviewing, resume preparation and coop/internship opportunities.

**Design Requirement.** All engineering majors require a minimum of 48 credit hours of engineering topics (engineering topics include subjects in the engineering sciences or engineering design). Engineering design is the process of devising a system, component or process to meet desired needs. Engineering design work may be done by individuals; however, team efforts are encouraged where appropriate. Engineering majors are provided an integrated engineering design experience throughout the curriculum. In addition, all engineering programs include a meaningful major design experience that builds upon the fundamental concepts of mathematics, basic sciences, humanities, social sciences, engineering topics, and communication skills.

## Graduation Requirements

For University policy, see "Graduation Requirements" on page 16.

## General Education Requirements

For a description of requirements for UNL's general education program, Achievement-Centered Education (ACE), which is effective AY 2009-10, see page 17.

## Approved Minors for College of Engineering Students

The College of Engineering enables its students to participate in the approved minors subject to the following conditions:

1. A minor will not reduce or alter the existing course or degree requirements for students electing to pursue a minor.
2. A student's minor program(s) must be organized and approved by an adviser prior to the submission of the senior check to the department chair or head.
3. The minor(s) must be approved by the adviser, the department chair or head, the Dean and the cognizant program offering the minor(s).
4. The College of Engineering will follow the "A/B" format of the Arts and Sciences College in which a student pursuing a single minor must complete the "A" requirements. A student pursuing a double (or greater) minor must fulfill either the "A" or "B" requirements for both minors depending on which plan is offered by the cognizant department.
5. Minors on the Lincoln or Omaha campuses may be added to the following list on approval of the College of Engineering Curriculum Committee and faculty.

## Approved Minors

**Agricultural Economics:** See "Agricultural Economics Minor" on page 51.

**Agricultural Leadership, Education and Communication:** See "Leadership and Communication Minor" on page 56.

**Agriculture and Natural Resources:** See "International Agriculture and Natural Resources Minor" on page 47.

**Agronomy:** See "Agronomy Minor" on page 61.

**Animal Science:** See "Animal Science Minor" on page 66.

**Art History:** See "Art History Minor" on page 331. **Aviation** (Omaha campus): Contact Aviation Institute at UNO for more details at 402/554-3424.

**Biochemistry:** See "Requirements for the Minor in Biochemistry" on page 143.

**Biological Sciences:** See "Requirements for the Minor in Biological Sciences" on page 144.

### Biomedical Engineering Minor:

Required Core Courses.....	24
BIOS 101 & 101L or BIOS 102.....	4
BIOS 213 & 213L.....	4
PHYS 212.....	4
BSEN 317.....	3
Electives.....	9

(6 hrs in courses outside your major)

#### Track:

Tissue-Engineering	
CHME 473 .....	3
Biomechanics	
MECH 436.....	3
IMSE 415.....	3
IMSE 416.....	3
Medical Imaging	
BSEN 311.....	3
And Biomedical	
BSEN 414.....	3
Signal Processing	
ELEC 304.....	3

**Business Minor for Jeffrey S. Raikes School of Computer Science and Management:** *Plan A only.* The minor detailed below is applicable only to students participating in the Jeffrey S. Raikes School of Computer Science and Management. All courses must be taken for a letter grade.

Required Foundation Courses.....	16-17
MATH 106, 107 or 208.....	4-5
STAT 218 or 380 or IMSE 321.....	3
RAIK 181H .....	3
RAIK 182H .....	3

RAIK 281H.....	3
Required Business Core Courses.....	12
MRKT 341 .....	3
RAIK 282H.....	3
RAIK 381H.....	3
RAIK 382H.....	3
Total hours for the RAIK/BSAD minor.....	28-29

**Communication Studies:** See “Requirements for the Minor in Communication Studies” on page 153. NOTE: Engineering students may not use internship credit to satisfy this minor.

**Construction Management:** *Plan A only.* All courses must be taken for a letter grade.

Required Courses .....	27
BLAW 372 Business Law I.....	3
CNST 112 Construction Communications .....	3
CNST 241 Construction Equipment & Methods I.....	3
CNST 305 Physical Environmental Systems I .....	3
CNST 378 Construction Estimating I.....	3
CNST 379 Construction Estimating II.....	3
CNST 480 Productivity & Human Factors .....	3
CNST 485 Construction Project Scheduling & Control.....	3
MNGT 360 Managing Behavior in Organizations.....	3

**Economics:** See “Requirements for the Minor in Economics” on page 161.

**Engineering Mechanics:** *Plan A*–12 credit hours beyond the regular undergraduate engineering mechanics sequence (ENGM 223, 325, 373 or ENGM 250, 350). These may be chosen from 300- and 400-level courses offered by engineering mechanics, excluding those courses required in the student’s curriculum by the major department.

**English:** See “Requirements for the Minor in English” on page 163.

**Ethnic Studies:** See “Requirements for the Minor in Ethnic Studies” on page 171.

**European Studies:** See “Requirements for the Minor in European Studies” on page 174.

**General Business:** *Plan A only.* All courses must be taken for a letter grade.

Required Foundation Courses.....	21-26
ACCT 201 and 202 or 306.....	4-6
ECON 211 and 212 or 210.....	6
IMSE 321 or STAT 380 or ECON 215 or STAT 218 or ELEC 305 .....	3
MATH 106.....	5
CSCE 150A or 150E or 155 or CNST 112 & 131 ..	3-6
Required Business Core Courses.....	12
FINA 361 or IMSE 206 .....	3
MRKT 341 .....	3
MNGT/MIST 350 or MNGT 320 or 331 or 360 ..	3
300/400-level business course .....	3

**Geography:** See “Requirements for the Major in Geography” on page 175.

**Geology:** See “Requirements for the Minor in Geology” on page 177.

**History:** See “Requirements for the Minor in History” on page 181.

**International Agriculture and Natural Resources:** See “International Agriculture and Natural Resources Minor” on page 47.

**International Studies:** See “International Studies” on page 187.

**Japanese:** See “Requirements for the Minor in Japanese” on page 199.

**Mathematics and Statistics:** *Plan A only*–12 credit hours beyond the calculus sequence (MATH 106-107-208, or 106H-208H) and differential equations (MATH 221 or 221H). These courses may be chosen from the 300- or 400-level course offered by mathematics and statistics except MATH 350, 450 and 460.

**Meteorology-Climatology:** See “Requirements for the Minor in Meteorology–Climatology” on page 178.

**Modern Languages:** Only for engineering students. Czech: There is no Plan A minor. Plan B– 6 hours at the 300 level.

French, German and Russian: Plan A–12 hours at the 203 level and above, including 6 hours at the 300 level. Plan B–9 hours at the 203 level and above, including 3 hours at the 300 level.

Japanese: Plan A–12 hours at the 203 level and above, including 6 hours at the 300 level. Plan B–6 hours at the 203 level and above, including 204.

Spanish: Plan A–12 hours numbered at 303 or above. Plan B–6 hours from 303 or above.

**Music:** See “Requirements for the Minor in Music (Plan A) (19 cr)” on page 338.

**Philosophy:** See “Requirements for the Minor in Philosophy” on page 202.

**Physics:** See “Requirements for the Minor in Physics” on page 204.

**Political Science:** See “Requirements for the Minor in Political Science” on page 207.

**Psychology:** See “Requirements for the Minor in Psychology” on page 210.

**Sociology:** See “Requirements for the Minor in Sociology” on page 212.

**Water Science:** See “Water Science Minor” on page 105.

**Women’s and Gender Studies:** See “Requirements for the Minor in Women’s and Gender Studies” on page 216.

## Minor in International Engineering

The minor in international engineering is designed to encourage and give recognition to undergraduate students in the College of Engineering who enhance their engineering education with courses and experiences consistent with the global nature of engineering and the economy. The minor in international engineering has four components:

1. Twelve (12) credit hours of courses in international engineering and related courses.

The courses must be chosen from the list of courses maintained by the Associate Dean of Academic Affairs and the College Office of International Programs. The course list includes all sections of ENGR 490 and MODL 98 and the list of courses included in Appendix 1. In addition,

- a. A minimum of 3 credit hours must be in ENGR 490 courses.
- b. A minimum of 6 credit hours must be in 300-level courses or above.
- c. A maximum of 6 credit hours may be taken Pass/No Pass.

2. Two (2) semesters with a minimum of 6 credit hours of college-level foreign language.

The actual number of credit hours taken will depend on the specific courses taken by the student.

3. Participation in a study abroad experience in a program approved by the Associate Dean of Academic Affairs and the College Office of International Programs.

4. A minimum of 9 credit hours of the course work listed for the international engineering minor cannot count toward the undergraduate engineering degree or the master of architectural engineering degree.

## Lifelong Learning

The education of professionals in construction management, engineering, and engineering technology is a continuing process. The groundwork in both technical and nontechnical studies is laid while in college, but education does not stop on the day of graduation. For a professional, education will continue not only in the technical areas but in areas that relate to human and social concerns. A professional may expect to take a leadership role in the community and must have a broad awareness of human and social accomplishments, needs, values, and a willingness to take the responsibility for meeting these needs. For these reasons, an integrated program of course work in the humanities and social sciences is a part of the educational requirements.

## Interdisciplinary Bachelor of Science Degree

Our technological society has a variety of problems concerned with more than a single traditional discipline. This flexible program may combine a basic engineering program with any of the following.

**Physics.** This program allows the student to combine an in-depth study of physics with studies in one or more of the engineering disciplines. Such a program is frequently labeled an “engineering physics” program at other institutions.

The program provides an educational foundation for a variety of careers in applied science or research and development, or for graduate studies.

**Pre-medicine.** Successful completion of this program helps a student meet the basic requirements for admission to a medical college and establish a basic engineering background. The medical profession needs the help of engineers in designing the instrumentation and tools for diagnosis and treatment, prosthetic devices, and health care systems.

**Pre-law.** The basic requirements for admission to a law college may be met through successful completion of this program. An engineering background is especially valuable to practitioners in patent law, in contracts and specifications, and in the litigation of technical problems.

**Pre-dentistry.** A student who successfully completes this program is prepared to meet the basic requirements for admission to a dental college and also establish an engineering background that relates to the instrumentation and tools of dentistry, properties of dental materials, and orthodontic practices.

## LINCOLN CAMPUSES

### Department of Biological Systems Engineering

**Head:** Professor Ronald E. Yoder

**Professors:** Dickey, Dvorak, Edwards, Eisenhauer, Hanna, Hoy, Jones, Koelsch, Martin, Meyer, Schinstock, Schulte, Sheldon, Smith, Weller, Yang

**Associate Professors:** Adamchuk, Bashford, Franti, Irmak, Kocher, Kranz, Stowell, Woldt, Yonts

**Assistant Professors:** Istanbulluoglu, Othman, Pannier, Subbiah, vanDonk

Two engineering degree programs are offered in the Department of Biological Systems Engineering. They are biological systems engineering (BSEN) and agricultural engineering (AGEN). Job opportunities for graduates from both programs are available in industry, public agencies, consulting, and private practice.

Biological systems engineering is one of the newest and most rapidly developing branches of engineering. Emphasis is placed on the design, analysis, manufacture, and management of biological products and systems. A biological systems engineer could work on systems to micropropagate tissue culture, develop biomaterials, design equipment and processes for producing bioproducts, or develop extruders to manufacture new foods. Still another could be responsible for developing biological sensors to detect human diseases, minimize plant and animal stress, or for controlling the environment of greenhouses and animal facilities. Biological systems engineers are also involved in resolving environmental issues such as: toxic waste management, water quality, and biodegradable products.

Agricultural engineering involves the design, analysis, manufacture and management of machines, structures, and systems for production agriculture and product processing. Thus, some agricultural engineers might be responsible for the design of the hydraulic system on a new tractor or harvester. Others could be performing stress analysis in a center-pivot irrigation system, designing a terrace for soil erosion control, or managing a groundwater conservation district. Agricultural engineers also provide safe, reliable, and economical systems for new concepts such as harvesting and processing alternate crops for commercial products, geographic information systems for reduced groundwater pollution, and electronic imagery for reduced applications of pesticides and fertilizers.

The department is located in L. W. Chase Hall on East Campus. Agricultural engineering and biological systems engineering students participate in classes and laboratories on both the East and City Campuses. Courses in biochemistry, biotechnology, machine design, plant and animal environment, irrigation, soil conservation, food and bioprocessing, electronics, soil and water engineering, structural design, biomedical engineering, natural resources, agronomy, and animal science, are offered on the East Campus. Basic courses in math, chemistry, physics, engineering,

computers, and electives in mechanical, civil, electrical, industrial, and chemical engineering are taken on the City Campus. Convenient bus transportation is available between campuses.

Laboratories in Chase Hall provide facilities and equipment for the study of agricultural machines and power units; animal and plant environment control systems; bioprocessing systems; engineering properties of food and biological materials; irrigation hydraulics; and air and water pollution control. Modern instruments available in the laboratories include computers; electronic biomedical image processors; water and air flow measurement devices; plant and animal environment chambers; non-destructive sensing devices for plants, animals and humans; and computer-aided design equipment. The department maintains a student computer laboratory, a student activities room, a student design room, and a library. The Nebraska Tractor Test Laboratory and the Industrial Agricultural Products Center are located in the department. The faculty also conducts research at the Agricultural Research and Development Center at Mead and four Research and Extension Centers located throughout Nebraska.

After graduation, BSEN alumni will share the attribute of improving the organization for which they work, and the community and country in which they live. They will do this whether they are involved in biomedical engineering, water resources or environmental engineering, food or bioproducts engineering, or other professional endeavors such as business, law or medicine. In doing so, they will:

- provide innovative and effective solutions to problems in a variety of work environments through the use of their unique background in biological systems engineering and the biological sciences;
- look beyond components in isolation thereby providing holistic solutions to complex issues involving, for example, interactions at the ecosystem, organism, organ, cellular or subcellular level;
- think logically using appropriate elements of mathematics, science, and engineering to develop, manage and interpret data, to correctly interpret new research findings, and to design new systems for the benefit of society;
- successfully integrate technical knowledge with communication and interpersonal skills to lead and work effectively in teams, and to articulate the role of engineering decisions in the workplace, community and world;
- responsibly address issues such as health and safety, personal and professional ethics, cultural diversity, as well as the social, environmental, and global impacts of their work;
- continue their personal growth, education, and professional development through various opportunities provided by institutions, professional societies and other venues; and
- remain involved in the department as active alumni who promote the biological systems engineering program and discipline, and mentor future generations of engineers.

Upon entering the workforce, AGEN graduates (whether they are involved in machine design, sensors and controls, soil and water resources, or other professional endeavors such as business or law) will be:

- applying their unique educational backgrounds in agricultural engineering by providing appropriate solutions to problems and adding value to the research, development, and design processes encountered in a variety of work environments;
- considering systems as a whole when solving problems, looking beyond components and subsystems individually;
- confidently using the necessary elements of mathematics, statistics, physical science, engineering, computer based measurement and analysis tools and current literature in solving problems and providing design solutions;
- successfully integrating their technical knowledge with skills in communication and persuasion, leading and working effectively in teams, and understanding cultural diversity and social and political forces that impact engineering decisions, as well as having the capability of competing in an international atmosphere;
- responsibly addressing issues of health and safety, ethics, and environmental impacts of engineering decisions;
- continuing their personal growth, education, and professional development through various opportunities provided by institutions, professional societies and other venues; and
- valuing their educational experience by remaining involved in the department as alumni and continually promoting the agricultural engineering program and profession.

Students in both programs benefit from small classes and personal acquaintances with faculty. In consultation with their adviser, students select electives that permit specialization in areas applicable to their career aspirations. Many students work part-time on departmental research projects, gaining valuable experience for later employment. Students also benefit from summer jobs, internships and co-op programs. These opportunities give students practical experience to learn about careers in engineering. Students also gain valuable experience through participation in professional organizations such as the American Society of Agricultural and Biological Engineers, the Soil and Water Resources Club, the Biomedical Engineering Society, the Nebraska Society of Professional Engineers and the Society for Women Engineers.

Biological systems engineering and agricultural engineering are both administered within the College of Engineering. Masters and PhD degrees are offered by the Department and are awarded through the Graduate College.

### Requirements for the Degree of Bachelor of Science in Biological Systems Engineering (Lincoln campus)

First Semester	Credits
BSEN 100 Intro to Biological Systems Engineering & Agricultural Engineering	1
CHEM 113 Fundamental Chemistry I	4
ENGR 010 Freshmen Engineering Seminar	0
JGEN 200 Technical Communication	3
MATH 106 Analytic Geometry & Calculus I	5
ACE Elective <sup>1</sup>	3

<sup>1</sup> Choose one course each from ACE outcomes 5, 7, 8,

	TOTAL 16
<b>Second Semester</b>	<b>Credits</b>
BSEN 112 Engineering in Agricultural & Biological Systems.....	2
BSEN 130 Computer Aided Design.....	2
CHEM 114 Fundamental Chemistry II.....	3
MATH 107 Analytic Geometry & Calculus II.....	5
PHYS 211 General Physics I.....	4
	<b>TOTAL 16</b>
<b>Third Semester</b>	<b>Credits</b>
BIOS 102 Cell Structure & Function.....	4
BSEN 225 Engineering Properties of Biological Materials .....	3
CHEM 251 & 253 or CHEM 261 & 263 Organic Chemistry & Lab.....	4
ENGM 223 Engineering Statics.....	3
ENGR 020 Sophomore Engineering Seminar.....	0
MATH 208 Analytic Geometry & Calculus III.....	4
	<b>TOTAL 18</b>
<b>Fourth Semester</b>	<b>Credits</b>
BIOC 321 & 321L or BIOC 431 Biochemistry & Lab.....	4
BSEN 244 Thermodynamics of Living Systems.....	3
ENGM 373 Engineering Dynamics.....	3
MATH 221 Differential Equations.....	3
Computer Programming Elective <sup>2</sup> .....	1
Oral Communication Elective <sup>3</sup> .....	3
	<b>TOTAL 17</b>
<b>Fifth Semester</b>	<b>Credits</b>
BIOS 103 Organismic Biology.....	4
CIVE 310 or MECH 310 or CHME 332 Fluid Mechanics ..	3
ELEC 211 Elements of Electrical Engineering I.....	3
IMSE 321 Engineering Statistics & Data Analysis or	
MATH 380 Statistics & Applications .....	3
BSEN Emphasis Elective <sup>4</sup> (see list below).....	3
	<b>TOTAL 16</b>
<b>Sixth Semester</b>	<b>Credits</b>
BSEN 344 Biological & Environmental Transport Processes .....	3
ACE Elective <sup>1</sup> .....	3
BSEN Emphasis Electives <sup>4</sup> (see list below) .....	6
Engineering or Science Emphasis Elective <sup>4</sup> .....	3
Interpersonal Relations Elective <sup>5</sup> .....	3
	<b>TOTAL 18</b>
<b>Seventh Semester</b>	<b>Credits</b>
BSEN 460 Instrumentation & Controls.....	3
BSEN 470 Design I in Agricultural & Biological Systems Engineering.....	1
IMSE 206 Engineering Economy I.....	3
ACE Elective <sup>1</sup> .....	3
BSEN Emphasis Elective <sup>4</sup> (see list below) .....	3
Engineering or Science Emphasis Elective <sup>4</sup> .....	3
	<b>TOTAL 16</b>

<b>Eighth Semester</b>	<b>Credits</b>
BSEN 480 Design II in Agricultural & Biological Systems Engineering.....	3
ENGR 400 Professional Ethics & Social Responsibilities .....	1
ACE Elective <sup>1</sup> .....	3
Biological Science Elective <sup>6</sup> .....	4
BSEN Emphasis Elective <sup>4</sup> (see list below) .....	3
Engineering Emphasis Elective <sup>4</sup> .....	3
	<b>TOTAL 17</b>

**Total Credit Hours Required.....** 134

## BSEN Emphasis Courses

### Food and Bioproducts

BSEN 303 Principles of Process Engineering  
BSEN 446 Unit Operations of Biological Processing

### Biomedical

BSEN 317 Intro to Biomedical Engineering  
BSEN 414 Medical Imaging Systems  
BSEN 416 Intro to Biomaterials

### Water and Environment

BSEN 326 Intro to Environmental Engineering  
BSEN 350 Water Resources Engineering  
BSEN 453 Irrigation & Drainage Systems Engineering  
BSEN 455 Nonpoint Source Pollution Control Engineering

## Courses of Instruction

### Biological Systems Engineering (BSEN)

[ES] 100. **Introduction to Biological Systems Engineering and Agricultural Engineering** (AGEN 100) (1 cr I) Lec 1.

Description of careers in biomedical, environmental, water resources, food and bioproducts, and agricultural engineering. The human, economic and environmental impacts of engineering in society. Communication, design, teamwork, and the role of ethics and professionalism in engineering work.

[ES] 112. **Engineering in Agricultural and Biological Systems** (AGEN 112) (2 cr II) Lec 2. Prereq: BSEN/AGEN 100.

Introduction to the fields of biological systems and agricultural engineering. Problem solving techniques and procedures through the use of spreadsheets, symbolic processors, and graphical methods. Emphasis on problem/solution communications with topics and problems from agricultural and biological systems.

130. **Computer-Aided Design** (CIVE 130) (2 cr II) Lec 1, lab 3. Prereq: AGEN/BSEN 112 or CIVE 112.

Use of computer-aided design software to communicate engineering ideas. Specifications, dimensioning, tolerancing, 2- and 3-D model development, topographic mapping, and process layout with environmental, bioprocess, and biomedical emphases.

[IS] 225. **Engineering Properties of Biological Materials** (AGEN 225) (3 cr I) Lec 2, lab 2. Prereq: MATH 106.

Physical properties important to the design of harvesting, storage, and processing systems for agricultural crops; principles and techniques for measurement of properties including frictional effects, particle size, strength, moisture content, specific heat, and thermal conductivity.

244. **Thermodynamics of Living Systems** (3 cr II) Lec 3. Prereq: BIOS 101 and 101L, or BIOS 102, CHEM 110 or 114, MATH 208 and PHYS 211.

Introduction to the laws of thermodynamics and their application to biological and environmental systems. Zeroth, first, second, and third laws; open and closed systems; enthalpy and specific heat; and Gibb's free energy and chemical potential for biological and environmental systems. Applications to biochemical potentials, water potential, absorption, osmosis, radiation, membranes, surface tension, and fugacity. Thermodynamic cycles as they apply to living systems.

6 BIOS 203 is not acceptable; a minimum of two laboratory courses or two courses with laboratories is required within the 16 hours of biological sciences and biochemistry courses.

303. **Principles of Process Engineering** (AGEN 303) (3 cr II) Lec 3. Prereq: MATH 221 or permission.

Introduction to performance parameters and characteristics of pumps, fans, presses, and solids handling, size reduction, separation and agitation equipment. Application of the various technologies studied with analysis of example systems.

311. **Biomedical Signal and System Analysis** (3 cr) Lec 3. Pre-req: MATH 221.

Mathematical modeling of biophysical systems. Continuous and discrete signals. Signal representation, system classification, impulse response, convolution, Fourier analysis, transfer functions, difference-equation approximations of differential equations. Basic filtering concepts.

317. **Introduction to Biomedical Engineering** (3 cr) Lec 2, lab 2. Prereq: PHYS 211; MATH 221 or parallel and one semester of biology.

Introduction to research areas and applications in biomedical engineering. Bioelectricity, biosensors, biomechanics, cardiovascular mechanics, tissue engineering, biotechnology, medical imaging.

[IS] 325. **Power Systems Design** (AGEN 325) (3 cr II) Lec 2, lab 3. Prereq: PHYS 212 or ELEC 211; MECH/CIVE 310 or CHME 332 or parallel; or permission.

Fundamentals of power systems for machines. Introduction to fluid power (hydraulics, pneumatics), pumps, motors, cylinders, control devices, and system design. Selection of electric motors as power sources, operating characteristics and circuits. Selection of internal combustion engines as power sources.

[ES] 326. **Introduction to Environmental Engineering** (CIVE 326) (3 cr) Prereq: CHEM 110 or 111 or 113, and MATH 221. For course description, see CIVE 326.

326H. **Honors: Introduction to Environmental Engineering** (CIVE 326H) (3 cr) Prereq: Good standing in the University Honors Program or by invitation; CHEM 110 or 111 or 113 and parallel: CIVE/BSEN 310. For course description, see CIVE 326H.

327. **Environmental Engineering Laboratory** (CIVE 327) (1 cr) Lab 3. Prereq: CHEM 110 or 111 or 113, and MATH 221. Parallel: CIVE/BSEN 326. For course description, see CIVE 327.

[ES][IS] 344. **Biological and Environmental Transport Processes** (AGEN 344) (3 cr II) Lec. Prereq: BSEN 244 or MECH 200; MATH 221; MECH/CIVE 310 or CHME 332; or permission.

Introduction to concurrent transport of energy and mass in biological and environmental processes. Modes of heat transfer, steady and non-steady state heat conduction, convective heat transfer, radiative heat transfer, and heat transfer with phase change. Introduction to equilibrium, kinetics, and modes of mass transfer, diffusion, dispersion, and convective mass transfer. Includes soil freezing and thawing, energy and mass balances of crops, diffusivities of membranes, animal energy balances, respiration, and photosynthesis.

350. **Soil and Water Resources Engineering** (AGEN 350) (3 cr I) Lec 2, lab 3. Prereq: MATH 221 and parallel: MECH/CIVE 310 or CHME 332.

Introduction to soil and water resources and the engineering processes used to analyze watersheds. Soil water relations, evapotranspiration, precipitation, runoff, erosion, flow in natural waterways and through reservoirs, wetland and groundwater hydrology, and water quality. Geographic information system utilized to develop maps and analyze watershed characteristics. A selected watershed is investigated.

414/814. **Medical Imaging Systems** (3 cr) Lec 3. Prereq: BSEN 311 or ELEC 304.

Underlying physics, instrumentation, and signal analysis of biomedical and biological imaging modalities. MRI, X-ray, CT, ultrasound, nuclear medicine, and the human visual system. Energy-tissue interactions. Resolution, point spread function, contrast, diffraction, comparisons. Information content in images for biological systems.

422/822. **Pollution Prevention: Principles and Practices** (CIVE 422/822) (3 cr) Prereq: Permission. For course description, see CIVE 422/822.

425. **Process Design in Water Supply and Wastewater Treatment** (CIVE 425) (3 cr) Lec 3. Prereq: CIVE/BSEN 326 and CIVE/MECH 310. For course description, see CIVE 425.

and 9 elective courses shown on page 383.

2 Choose from CSCE 150E, 155, 251K, 252A, or MIST 250.

3 Choose from ALEC 102; COMM 209, 210, 283, or 286; FREN 304; or JGEN 300 (SLO 2).

4 An emphasis area requires a student to take 24 hours of engineering and science-based courses. A minimum of 18 hours must be selected from courses offered by the College of Engineering. Within the 18 hours, a minimum of 15 hours must be BSEN courses or engineering courses crosslisted with BSEN. Of the BSEN or BSEN crosslisted courses, one must be a 300-level course of a secondary emphasis area and one must be a 400-level course of a primary emphasis area. Water and Environment emphasis requires both BSEN 326 and BSEN 350, Food and Bioproducts emphasis requires BSEN 303, and Biomedical emphasis requires BSEN 317 as primary emphasis area courses.

5 Choose from MNGT 320, 360, or 365 (SLO 6).

<b>441/841. Animal Waste Management (AGEN 441/841) (3 cr I)</b> Lec 3. Prereq: Senior standing. Characterization of wastes from animal production. Specification and design of collection, transport, storage, treatment, and land application systems. Air and water pollution, regulatory and management aspects.	<b>889. Seminar I (AGEN *889) (1 cr) Required for all entering graduate students.</b>	<b>Seventh Semester</b>
<b>446/846. Unit Operations of Biological Processing (3 cr II)</b> Lec 2, rct 1. Prereq: AGEN or BSEN 225 and CHEM 332 or equivalent. Application of heat, mass, and moment transport in analysis and design of unit operations for biological and agricultural materials. Evaporation, drying, distillation, extraction, leaching, thermal processing, membrane separation, centrifugation, and filtration.	<b>896. Special Problems (AGEN *896) (1-6 cr I, II, III)</b> Prereq: Permission.	AGEN 424 Machine Design in Agricultural Engineering ..... 3
<b>453/853. Irrigation and Drainage Systems Engineering (AGEN 453/853) (3 cr II)</b> Lec 2, lab/rct 2. Prereq: CIVE/MECH 310; AGEN/BSEN 344; or permission. For course description, see AGEN 453/853.	<b>898. Internship (AGEN *898) (1-6 cr)</b> Prereq: Permission.	AGEN 443 Design of Light-Frame Structures or AGEN 441 Animal Waste Management ..... 3
<b>455/855. Nonpoint Source Pollution Control Engineering (CIVE 455/855) (3 cr)</b> Prereq: BSEN/CIVE 326; BSEN/AGEN 350 or CIVE 352. Identification, characterization, and assessment of nonpoint source pollutants; transport mechanisms and remediation technologies; design methodologies and case studies.	<b>899. Masters Thesis (6-10 cr)</b>	AGEN 453 Irrigation & Drainage Systems ..... 3
<b>458/858. Groundwater Engineering (CIVE 458/858) (3 cr)</b> Prereq: CIVE 352 or AGEN/BSEN 350 or equivalent. For course description, see CIVE 458/858.	Refer to the Graduate Bulletin for 900-level courses.	AGEN 460 Instrumentation & Controls ..... 3
<b>460/860. Instrumentation and Controls (AGEN 460/860) (3 cr I)</b> Lec 2, lab 2. Prereq: Senior standing or permission. Analysis and design of instrumentation and controls for agricultural and biological production, management and processing. Theory of basic sensors and transducers, analog and digital electrical control circuits, and the interfacing of computers with instruments and controls. Emphasis on signal analysis and interpretation for improving system performance.	<b>899. Masters Thesis (6-10 cr)</b>	AGEN 470 Design I in Agricultural & Biological Systems Engineering ..... 1
<b>470. Design I in Agricultural and Biological Systems Engineering (AGEN 470) (1 cr I, II)</b> Lec 1. Prereq: Senior standing and permission. Definition, scope, analysis, and synthesis of a comprehensive design problem within the areas of emphasis in the Department of Biological Systems Engineering. Identification of a client's engineering problem to solve, and development of objectives and anticipated results.	<b>Refer to the Graduate Bulletin for 900-level courses.</b>	ACE Elective <sup>1</sup> ..... 3
<b>470H. Honors: Design Project I (AGEN 470H) (1 cr)</b> Prereq: Senior standing and good standing in the University Honors Program or by invitation. Planning of a creative engineering project that satisfies the requirements of the University Honors Program and has potential to contribute to the advancement of knowledge in the field.		ACE Elective <sup>1</sup> ..... 3
<b>(ACE 10) [IS] 480. Design II in Agricultural and Biological Systems Engineering (AGEN 480) (3 cr I, II)</b> Lab 3. Prereq: BSEN/AGEN 470. <i>A full semester design activity.</i> Definition, scope, analysis, and synthesis of a comprehensive engineering problem in an engineering area of emphasis within the Department of Biological Systems Engineering. Design activity using the team approach to develop a solution.	<b>Requirements for the Degree of Bachelor of Science in Agricultural Engineering (Lincoln campus)</b>	<b>Eighth Semester</b>
<b>480H. Honors: Design Project II (AGEN 480H) (3 cr)</b> Prereq: Good standing in the University Honors Program or by invitation; BSEN/AGEN 470H. <i>The project culminated in a formal presentation of the project to UNL faculty and submission of a bound report to the UNL Honors Program.</i> Synthesis of a comprehensive design solution to an engineering problem. A full-term project involving creative components that satisfies the thesis requirements of the University Honors Program and contributes to the advancement of knowledge in the field.	<b>First Semester</b>	<b>Credits</b>
<b>496. Special Problems (AGEN 496) (1-6 cr, max 6 I, II, III)</b> Lec. Prereq: Senior standing and permission. Investigation and written report on engineering problems not covered in sufficient depth through existing courses. Topics vary.	AGEN 100 Intro to Biological Systems Engineering & Agricultural Engineering ..... 1	AGEN 480 Design II in Agricultural & Biological Systems Engineering ..... 3
<b>499H. Honors Thesis (AGEN 499H) (1-6 cr)</b> Prereq: Senior or junior standing, admission to the University Honors Program. Independent project which meets the requirements of the University Honors Program, conducted under the guidance of a faculty member in the Department of Biological Systems Engineering. The project should contribute to the advancement of knowledge in the field. Written thesis and formal presentation required.	AGEN 109 General Chemistry I ..... 4	ENGR 400 Professional Ethics & Social Responsibilities ..... 1
	ENGR 010 Freshman Engineering Seminar ..... 0	ACE Elective <sup>1</sup> ..... 3
	MATH 106 Analytic Geometry & Calculus I ..... 5	Engineering Emphasis Electives <sup>9</sup> ..... 9
	ACE Elective <sup>1</sup> ..... 3	
	Agricultural or Biological Sciences Elective <sup>7</sup> ..... 3	
	<b>16</b>	<b>16</b>
		<b>Total Credit Hours Required</b> ..... 131
		<b>Courses of Instruction</b>
		<b>Agricultural Engineering (AGEN)</b>
		<b>[ES] 100. Introduction to Biological Systems Engineering and Agricultural Engineering (BSEN 100) (1 cr I)</b> Lec 1. For course description, see BSEN 100.
		<b>[ES] 112. Engineering in Agricultural and Biological Systems (BSEN 112) (2 cr II)</b> Lec 2. Prereq: BSEN/AGEN 100. For course description, see BSEN 112.
		<b>[IS] 225. Engineering Properties of Biological Materials (BSEN 225) (3 cr I)</b> Lec 2, lab 2. Prereq: MATH 106. For course description, see BSEN 225.
		<b>303. Principles of Process Engineering (BSEN 303) (3 cr II)</b> Lec 3. Prereq: MATH 221 or permission. For course description, see BSEN 303.
		<b>323. Unit Operations of Agricultural Machines (3 cr I)</b> Lec 2, lab 3. Prereq: AGEN or BSEN 225. Parallel: ENGM 373. Analysis and evaluation of machines and associated components for biological and agricultural systems; analysis of unit operations and physical properties of biological materials associated with the production and processing of agricultural crops and products.
		<b>[IS] 325. Power Systems Design (BSEN 325) (3 cr II)</b> Lec 2, lab 3. Prereq: PHYS 212 or ELEC 211, and MECH/CIVE 310 or CHME 332 or parallel or permission. For course description, see BSEN 325.
		<b>[ES][IS] 344. Biological and Environmental Transport Processes (BSEN 344) (3 cr II)</b> Lec. Prereq: BSEN 224 or MECH 200; MATH 221; MECH/CIVE 310 or CHME 332; or permission. For course description, see BSEN 344.
		<b>350. Soil and Water Resources Engineering (BSEN 350) (3 cr I)</b> Lec 2, lab 3. Prereq: MATH 221 and parallel: MECH/CIVE 310 or CHME 332. For course description, see BSEN 350.
		<b>[IS] 424/824. Machine Design in Agricultural Engineering (3 cr I)</b> Lec 3. Prereq: Senior standing and ENGM 325. Design of machine elements. Definition, analysis, and solution of a design problem in agricultural engineering.
		<b>431. Site-specific Crop Management (AGRO, MSYM 431) (3 cr I)</b> Lec 2, lab 3. Prereq: Senior standing; AGRO/SOIL 153; AGRO 204; or permission. For course description, see AGRO 431.
		<b>441/841. Animal Waste Management (BSEN 441/841) (3 cr I)</b> Lec 3. Prereq: Senior standing. For course description, see BSEN 441/841.

**443. Design of Light-Frame Structures** (3 cr I) Lec 2, lab 3.

Prereq: ENGM 325.

Engineering design for strength, economy, function and safety of light-frame structures; emphasis on wood, concrete, and steel elements; design project required.

**453/853. Irrigation and Drainage Systems Engineering** (BSEN 453/853) (3 cr II) Lec 2, lab/rct 2. Prereq: CIVE/MECH 310; AGEN/BSEN 344; or permission.

Analytical and design consideration of evapotranspiration, soil moisture, and water movement as related to irrigation and drainage systems; analysis and design of components of irrigation and drainage systems including water supplies, pumping plants, sprinkler systems, and center pivots.

**460/860. Instrumentation and Controls** (BSEN 460/860) (3 cr I) Lec 2, lab 2. Prereq: Senior standing or permission. For course description, see BSEN 460/860.**470. Design I in Agricultural and Biological Systems Engineering** (BSEN 470) (1 cr I, II) Lec 1. Prereq: Senior standing and permission.

For course description, see BSEN 470.

**470H. Honors: Design Project I** (BSEN 470H) (1 cr) Prereq: Senior standing and good standing in the University Honors Program.

For course description, see BSEN 470H.

**(ACE 10) [IS] 480. Design II in Agricultural and Biological Systems Engineering** (BSEN 480) (3 cr I, II) Lab 3. Prereq: BSEN/AGEN 470. *A full semester design activity.*

For course description, see BSEN 480.

**480H. Honors: Design Project II** (BSEN 480H) (3 cr) Prereq: Good standing in the University Honors Program or by invitation; BSEN/AGEN 470H.

For course description, see BSEN 480H.

**496. Special Problems** (BSEN 496) (1-6 cr, max 6 I, II, III) Lec. Prereq: Senior standing and permission.

For course description, see BSEN 496.

**499H. Honors Thesis** (BSEN 499H) (1-6 cr) Prereq: Senior or junior standing, admission to the University Honors Program.

For course description, see BSEN 499H.

**889. Seminar I** (BSEN \*889) (1 cr) *Required for all entering graduate students.***896. Special Problems** (BSEN \*896) (1-6 cr I, II, III) Prereq: Permission.**898. Internship** (BSEN \*898) (1-6 cr) Prereq: Permission.**899. Masters Thesis** (6-10 cr)

Refer to the Graduate Bulletin for 900-level courses.

## Department of Chemical and Biomolecular Engineering

**Chair: William H. Velander****Professors:** Brand (adjunct), Hendrix, Larsen, Meagher, Saraf, Timm, Velander, Viljoen**Associate Professors:** Demirel, Noureddini, Subramanian, Van Cott**Research Assistant Professors:** Mammedov, Skotak, Swanson

The mission of the University of Nebraska–Lincoln chemical and biomolecular engineering program is to provide qualified students with a foundation in engineering sciences and engineering design methods to prepare them for successful professional careers and to contribute to the needs of society.

The chemical and biomolecular engineering program's mission aligns with all three parts of the

University of Nebraska–Lincoln's stated mission, "The three-part mission of teaching, research and service serves as the charter challenge for the University of Nebraska–Lincoln." In carrying out this mission, the interflow of ideas and efforts among teaching, research and service produces an institutional impact that is greater than the sum of its separate parts, and insures a level of program quality consistent with the expectations and the needs of the people of Nebraska.

In pursuit of the program's mission, the Department of Chemical and Biomolecular Engineering has established the seven Educational Objectives given below. Objectives related to the BSChE program are marked by asterisks (\*):

- \*Educate students in the principles and methods essential to chemical and biomolecular engineering consistent with the curricular requirements of the American Institute of Chemical Engineers (AIChE).
- \*Broaden perspectives of students regarding social issues and responsibilities, ethics and professionalism.
- \*Graduate BS chemical engineers recognized for excellence and trained to successfully compete for positions in local, state, and national industry, and enter high quality graduate programs throughout the country.
- Prepare MS and PhD chemical engineers to conduct innovative and independent research and development functions for industry, government and academia.
- Create and provide access to knowledge that is supportive of the needs of chemical and biomolecular engineering.
- Foster an intrinsic curiosity for life-long learning
- Respond to the technical needs for economic development and diversification in the state and region.

The Department of Chemical and Biomolecular Engineering offers a course of study designed for students who plan careers in a wide variety of industries, ranging from the chemical and process industries to biotechnology, electronics, and the environment. Students receive training in the basic subjects of mathematics, English, and physics in common with other students in engineering, but in addition receive extensive training in chemistry. In various courses the emphasis is placed on the fundamental principles of fluid mechanics, heat transfer, mass transfer, separation processes, thermodynamics, kinetics, and process dynamics, as well as process economics and design of chemical processes.

The instructional laboratories provide opportunities for students to operate experimental equipment, to test the theories and correlations developed in the classroom, and to design their own experimental equipment for the solution of special problems.

Graduates are qualified to undertake work in research, design, development, production, maintenance, and technical sales in a wide variety of industries including chemicals, petroleum, petrochemicals, rubber, plastics, agricultural chemicals, food, biotechnology, pharmaceuticals, paper, fabrics, aircraft, automotive, electronics, energy conversion, and environmental pollution prevention and control.

The Department of Chemical and Biomolecular Engineering is located in Othmer Hall. A state-of-the-art unit operations laboratory, used to give hands-on chemical process experience, is located there. Laboratory equipment is provided for the study of fluid mechanics, heat transfer, mass transfer, staged operations, process control, thermodynamics, reaction kinetics, and polymerization. The department operates its own microcomputer facility. Additional research equipment is available for independent and graduate study in several areas.

The chemical and biomolecular engineering program provides for a minimum of 12 credit hours of technical electives. The purpose of these technical electives is to provide the student with opportunity to gain new knowledge in an area of engineering or science beyond the basic undergraduate chemical engineering program. The technical electives may be in engineering design, engineering science, physical science, life science, and/or math. Special emphasis options available in the Chemical and Biomolecular Engineering Department include biotechnology/bioengineering, materials engineering, and environmental engineering. Courses lacking a quantitative physical science foundation such as accounting, marketing, economics, or law are normally not acceptable as technical electives.

Registration for all technical electives requires the approval of a departmental adviser. Students are expected to complete their technical elective requirements during their junior and senior years with corresponding level of courses. Introductory 100-level courses are not accepted as technical electives. Similarly, advanced Placement (AP) high school classes are not allowed as technical electives. Several courses that are offered under biotechnology/bioengineering, materials engineering, environmental engineering, and mathematics and statistics are listed below. Students are strongly encouraged to select their technical electives from this list. Any course(s) taken outside of this list must be approved by the student's academic adviser prior to registration in the course. Also with the pre-approval of the student's academic adviser, a maximum of 3 credit hours of CHME 499 Senior Problems or CHME 499H Honors Thesis, may be applied toward the technical elective requirements.

For those students who have been admitted to the University Honors Program, junior- and senior-level chemical and biomolecular engineering classes are available as honors-designated classes (i.e., CHME xxxH) on a "contract basis" between the student and the instructor with approval by the department faculty. The requirement of an honors thesis research project is fulfilled by completion of a minimum of 3 credits of CHME 499H (Honors Thesis) under the direction of a department faculty member. Additional information on the University Honors Program, including admission requirements, can be found in the Honors Program section of this bulletin.

## Requirements for the Degree of Bachelor of Science in Chemical Engineering (Lincoln campus)

Any student in the chemical and biomolecular engineering program whose grade point average in required chemical and biomolecular engineering courses is less than 2.4 will be admitted to the required courses of the following year only with the special permission of the department.

First Semester	Credits
CHEM 113 Fundamental Chemistry I <sup>10</sup>	4
CHME 113 Intro to Chemical Engineering I	2
ENGR 010 Freshman Engineering Seminar	0
MATH 106 Analytic Geometry & Calculus I	5
ACE Electives <sup>11</sup>	6
	17

Second Semester	Credits
CHEM 114 Fundamental Chemistry II <sup>10</sup>	3
CHEM 116 Quantitative Chemistry Lab <sup>10</sup>	2
CHME 114 Intro to Chemical Engineering II	2
MATH 107 Analytic Geometry & Calculus II	5
PHYS 211 General Physics	4
	16

Third Semester	Credits
CHEM 261 Organic Chemistry	3
CHEM 263A Organic Chemistry Lab	1
CHME 202 Mass & Energy Balances	3
ENGM 223 Engineering Statics	3
ENGR 020 Sophomore Engineering Seminar	0
MATH 208 Analytic Geometry & Calculus III	4
PHYS 212 General Physics	4
	18

Fourth Semester	Credits
CHEM 262 Organic Chemistry	3
CHEM 264A Organic Chemistry Lab	1
CHME 203 Equilibrium Stage Operations	3
CSCE 150E Intro to Computer Science for Scientists & Engineers	3
JGEN 200 Technical Communications I	3
MATH 221 Differential Equations	3
	16

Fifth Semester	Credits
CHEM 481 Physical Chemistry	4
CHME 312 Chemical Engineering Computation	3
CHME 322 Chemical Engr Thermodynamics I	3
CHME 332 Transport Operations I	3
ACE Electives <sup>11</sup>	3
	16

Sixth Semester	Credits
CHEM 482 Physical Chemistry	4
CHME 323 Chemical Engr Thermodynamics II	3
CHME 333 Transport Operations II	3
ELEC 211 Elements of Electrical Engr	3
Oral Communication Elective <sup>12</sup>	3
	16

<sup>10</sup> The sequence CHEM 109, 110, 221 is an acceptable alternative to CHEM 113, 114, 116. However, 3 of the 12 credits of the former are not applicable to the degree and there may be scheduling problems. The student's adviser should be consulted.

<sup>11</sup> Choose one course each from ACE outcomes 5, 6, 7, 8, and 9 elective courses shown on page 383

<sup>12</sup> Choose from ALEC 102, JGEN 300, or COMM 286 (SLO 2).

Seventh Semester	Credits
CHME 442 Chemical Reactor Engineering & Design	3
CHME 452 Chemical Engineering Processing	
Economics & Optimization	3
CHME 462 Automatic Process Control	3
Technical Electives <sup>13</sup>	6
ACE Elective <sup>11</sup>	3
	18

Eighth Semester	Credits
CHME 430 Chemical Engineering Lab	4
CHME 453 Chemical Engineering Process Design	3
CHME 460 Automatic Process Control Lab	1
ENGR 400 Professional Ethics & Social Responsibility	1
Technical Electives <sup>13</sup>	6
ACE Elective <sup>11</sup>	3
	18

Total Credit Hours Required.....135

## Courses of Instruction (CHME)

### 113. Introduction to Chemical Engineering I (2 cr I) Lec 2.

*CHME 113 has guest lectures and requires field trips.*

The profession of chemical engineering. Chemical engineers' impact on today's societal issues, team problem solving, communication skills, and the introduction of chemical process flow sheets.

### 114. Introduction to Chemical Engineering II (2 cr II) Lec 2.

Prereq: MATH 106 or parallel.

Analytical and computational methods for solving problems related to chemical process measurements, properties of single compounds, properties of mixtures, and stoichiometry.

### 202. Mass and Energy Balances (3 cr I) Lec 3.

Prereq: CHEM 114, CHME 113 (CSCE 150E or ENGM 112 for transfer students); MATH 107/107H or parallel.

Application of the principle of conservation of mass and energy in the analysis of steady-state chemical processes. Topics in physical, chemical, and thermal property estimation.

### 203. Equilibrium Stage Operations (3 cr II) Lec 3.

Prereq: MATH 107; CHME 202. Parallel: CSCE 155.

Phase equilibria and mass and energy balances applied to staged mass transfer operations.

### 312. Chemical Engineering Computation (3 cr I) Lec 3.

Prereq: Junior standing; CSCE 155; MATH 221; or permission.

Computational methods in orthogonal polynomials, numerical integration, matrix operations and ordinary differential equations as they apply to chemical engineering problems such as separations, reactor design, transport operations and control.

### 322. Chemical Engineering Thermodynamics I (3 cr I) Lec 3.

Prereq: CHME 202; CSCE 155. Parallel: CHEM 481.

Application of the three fundamental laws to chemical engineering problems.

### 323/823. Chemical Engineering Thermodynamics II (3 cr II)

Lec 322. Prereq: CHME 322.

Application to multicomponent systems: thermodynamics, phase equilibria, chemical reaction equilibria, and process analysis.

### 332/832. Transport Operations I (3 cr I) Lec 3.

Prereq: MATH 208, CHME 202 or MECH 312.

Mass, momentum, and energy transport phenomena and their applications in chemical engineering.

### 333/833. Transport Operations II (3 cr II) Lec 3.

Prereq: CHEM 322.

Continuation of CHME 332.

### [IS] 430/830. Chemical Engineering Laboratory (4 cr I) Lec 1, lab 4.

Prereq: CHME 203, 333. Prereq or parallel: CHME 442.

Selected experiments in chemical engineering. Emphasis on experimental design, interpretation of results, and formal oral and written reports.

**434/834. Diffusional Operations** (3 cr II) Prereq: CHME 333 and 442, MATH 220 or 221.

Application of diffusional theory to the design of processing equipment required for absorption, adsorption, leaching, drying, and chemical reactions.

**442/842. Chemical Reactor Engineering and Design** (3 cr I) Prereq: CHME 323 or permission.

Basic principles of chemical kinetics are coupled with models descriptive of rates of energy and mass transfer for the analysis and design of reactor systems.

**452/852. Chemical Engineering Process Economics and Optimization** (3 cr I) Prereq: Senior standing in CHME. *Credit toward the degree may be earned in only one of: IMSE 206 or CHME 452/852.*

Criteria of chemical process economics: cost and asset accounting, time value of money, profitability, alternative investments, minimum attractive rate of return, sensitivity and risk analysis. Process optimization in: plant operations, unit operations, using successive calculations, linear programming and dynamic programming.

**(ACE 10) 453/853. Chemical Engineering Process Design** (3 cr II) Lec 1, lab 4. Prereq: CHME 203, 333, 442, 452.

Design and evaluation of chemical engineering process applications.

**454/854. Chemical Process Engineering** (3 cr) Prereq: CHME 430 and 312 or permission.

Practical and theoretical aspects of chemical process analysis, simulation, and synthesis. Case studies used to illustrate principles. Use of the digital computer as a tool of the process engineer is stressed.

**460/860. Automatic Process Control Laboratory** (1 cr II) Lec 3, lab 3. Prereq or parallel: CHME 462.

Selected laboratory experiments to demonstrate the theory of the dynamics and control of chemical processes.

**462/862. Automatic Process Control** (3 cr II) Lec 3. Prereq: MATH 220 or 221, CHME 333.

Analysis and design of automatic control systems. Dynamic responses of measuring instruments, control elements, stability of control systems, and process equipment included in control loops.

**473/873. Biochemical Engineering** (3 cr) Lec 3. Prereq: CHEM 262.

Dynamics of microbial growth and death. Engineering processes for microbiological synthesis of cellular materials and industrial products, with emphasis on food and pharmaceutical production by bacteria and fungi.

**474/874. Advanced Biochemical Engineering** (2-6 cr) Prereq: CHME 473/873 or permission.

Recent theoretical and technical developments in biochemical engineering.

**475/875. Biochemical Separations** (3 cr) Lec 3. Prereq: CHME 433/833.

Separation and purification of compounds of biological origin from an analytical perspective. Application of unit operations for these separations.

**482/882. Polymers** (3 cr I) Lec 3. Prereq: CHEM 262 and 264.

Introduction to polymer technology stressing polymerization kinetics, methods of resin manufacture and applications.

**486/886. Electrochemical Engineering** (3 cr II) Prereq: CHME 333, and 442, or MECH 318 and METL 360, or permission.

Thermodynamic and kinetic principles of electrochemistry are applied to the design and analysis of electrochemical processes, including chemical production, batteries, fuel cells, and corrosion prevention.

**489/889. Air Pollution, Assessment and Control** (3 cr) Prereq: Senior standing.

Survey of the present status of the air pollution problem and the application of engineering and scientific principles to its practical and effective coordinated control.

**496/896. Advanced Topics in Chemical Engineering Computation** (1-6 cr, max 6) Lec. Prereq: CHME 312 or CSCE 455/855 or ENGM 480/880, and permission. Intensive treatment of special topics of current research interest in such areas as steady-state and dynamic process simulation, design optimization, chemical process synthesis, computer-aided product research, stochastic optimization, and numerical methods applied to transport problems.

**499. Senior Problems** (1-6 cr, max 6) Ind. Prereq: Senior standing in CHME.

Research and development problems which include literature surveys, equipment design and operation, and development of correlations.

**499H. Honors Thesis** (1-6 cr, max 6) Ind. Prereq: Senior standing in CHME, admission to the University Honors Program. Honors thesis research project meeting the requirements of the University Honors Program. Independent research project executed under the guidance of a member of the faculty of the Department of Chemical Engineering which contributes to the advancement of knowledge in the field. Culminates in the presentation of an honors thesis to the department and college.

**805. Multiple Contact Separation Processes** (3 cr I) Lec 3.

Prereq: CHME 333 or permission.

**815. Advanced Chemical Engineering Analysis** (3 cr I) Prereq: CHME 333, MATH 220 or 221.

**825. Theoretical and Applied Thermodynamics for Chemical Engineers** (3 cr I) Lec 3. Prereq: CHME 823 or CHEM 982, MATH 820 or 821 or equivalent.

**834. Diffusional Operations** (3 cr II) Prereq: CHME 823 and 833, MATH 820 or 821.

**835. Transport Phenomena** (3 cr I) Prereq: MATH 221, CHME 332 and 333 or equivalent.

**845. Advanced Chemical Engineering Kinetics** (3 cr I) Prereq: CHME 815, 823, 835, 842.

**\*847. Principles and Applications of Catalysis in Reaction Engineering** (3 cr) Prereq: CHME 842 or equivalent.

**874. Advanced Biochemical Engineering** (2-6 cr) Prereq: CHME 873 or permission.

**899. Masters Thesis** (6-10 cr)

Refer to the Graduate Bulletin for 900-level courses.

## Department of Civil Engineering

**Chair: Mohamed F. Dahab**

**Associate Chairs:** Bruce Dvorak, John Stansbury

**Professors:** Azizinamini, Benak, Dahab, Moore, Nowak, Rilett, Sicking, Tadros, Tuan, Zhang

**Associate Professors:** Admiral, Dvorak, Jensen, Jones, Khattak, Krause, Moussavi, Rohde, Stansbury

**Assistant Professors:** Bartelt-Hunt, Guo, Irmak, Kim, X. Li, Y. Li, Sharma

The Department of Civil Engineering offers a complete undergraduate program to students on the Lincoln and Omaha campuses of the University of Nebraska. Curriculum requirements are nearly identical on both campuses. The goal is to prepare students for entry into the civil engineering profession immediately after graduation or to pursue graduate-level work.

The general educational objectives of the University of Nebraska-Lincoln civil engineering undergraduate program are to prepare our graduates to:

- successfully obtain employment in their areas of expertise in the public or private sectors;

- understand the ethical and professional demands of contemporary civil engineering practice;
- successfully enroll in graduate engineering or other professional programs;
- understand the necessity of team work in engineering practice;
- be able to communicate effectively in professional settings;
- understand and be able to account for the effects of their professional decisions on the quality of life and the environment;
- successfully pursue professional licensure; and
- continue to seek further education in a process of life-long learning.

As a professional discipline, civil engineering is closely related to the total human environment. In all professional endeavors, the civil engineer must consider ecological effects as well as the social, economic, and political needs of people. The civil engineer designs systems to control and manage our water resources to provide electric power, agricultural irrigation, flood control, recreation, water supplies and wastewater treatment systems for our urban and industrial needs.

The civil engineer plans, designs, and constructs our transportation systems including highways, railroads, waterways, and airports to connect rural, urban, and industrial areas. The civil engineer also designs and constructs housing and facilities for recreational, industrial, and commercial complexes, which comprise the urban environment. It is the responsibility of civil engineering to minimize air, water, and land pollution and protect the environment.

Instructional emphasis is placed on fundamental engineering principles derived from mathematics, chemistry, physics, and engineering science. These subjects provide a sound background for the subsequent introductory courses in environmental, geotechnical, structural, transportation, and water resources engineering. Students are introduced to design concepts in the freshman year. Design is incorporated throughout the curriculum which culminates in two senior-level courses, CIVE 389 Professional Practice and Management in Civil Engineering and CIVE 489 Senior Design Project.

Instructional laboratories in environmental engineering, hydraulics, geotechnical engineering, structures, surveying, and transportation provide each student with an opportunity to learn, through individual participation, the operation of the testing equipment used to establish engineering design criteria and to monitor and model engineering facilities such as water and wastewater treatment plants, highway systems, river control systems, and structural systems.

Some students may desire to obtain a degree in construction management in addition to the degree in civil engineering. Because some civil engineering courses require prerequisites beyond those required for similar construction management courses, students should obtain the civil engineering degree first. Advising will be done by a civil engineering faculty member familiar with the construction management curriculum. After completing the civil engineering degree, the student will move to the construction management

department to complete requirements for the second undergraduate degree in construction management.

The Departments of Civil Engineering and Architecture have a joint program awarding licensing degrees in both fields of study. A bachelors degree in civil engineering and masters degree in architecture are awarded, after approximately seven years of study. The departments work with individual students in tailoring a joint degree program. Several students are currently pursuing joint degrees. More information can be obtained from either department office.

The Department of Civil Engineering and Nebraska Wesleyan University have a cooperative program that leads to dual degrees in physics from Wesleyan and civil engineering from UNL. More information can be obtained from either, the Civil Engineering Department, or Nebraska Wesleyan University.

## Requirements for the Degree of Bachelor of Science in Civil Engineering (Lincoln and Omaha campuses)

Students must have completed the equivalent of the third semester before applying for admission to the civil engineering program. Transfer students must have all transfer hours accepted before applying to the degree program.

First Semester	Credits
CIVE 112 Intro to Civil Engineering .....	1
ENGR 010 Freshman Engineering Seminar .....	0
MATH 106 Analytic Geometry & Calculus I .....	5
CSCE 150E Intro to Computer Programming for Scientists & Engineers .....	3
ACE Elective <sup>14</sup> .....	3
Chemistry Elective <sup>15</sup> .....	4
	16

Second Semester	Credits
CIVE 130 Computer-Aided Design <sup>16</sup> .....	2
CIVE 221 Geometric Control Systems .....	3
MATH 107 Analytic Geometry & Calculus II .....	5
PHYS 211 General Physics I .....	4
ACE Elective <sup>14</sup> .....	3
	17

Third Semester	Credits
ENGM 223 Engineering Statics .....	3
ENGR 020 Sophomore Engineering Seminar .....	0
JGEN 200 Technical Communications I .....	3
MATH 208 Analytic Geometry & Calculus III .....	4
PHYS 212 General Physics <sup>17</sup> .....	4
ACE Elective <sup>14</sup> .....	3
	17

Fourth Semester	Credits
CIVE 361 Highway Engineering .....	3
COMM 286 Business & Professional Communication .....	3
ENGM 325 Mechanics of Elastic Bodies .....	3
ENGM 373 Engineering Dynamics .....	3
MATH 221 Differential Equation for Engineers .....	3
	15

<sup>14</sup> Choose one course each from ACE outcomes 5, 6, 7, 8, and 9 elective courses shown on page 383.

<sup>15</sup> Chemistry elective must be CHEM 111, 113, or both CHEM 109 and 110 (8 hrs).

<sup>16</sup> MECH 130 is an acceptable substitute.

<sup>17</sup> Either CHEM 114 and 116, or 221 are acceptable substitutes.

<b>Fifth Semester</b>	<b>Credits</b>
CIVE 310 Fluid Mechanics .....	3
CIVE 319 Hydraulics Lab .....	1
CIVE 326 Intro to Environmental Engineering .....	3
CIVE 327 Environmental Engineering Lab .....	1
CIVE 341 Intro to Structural Engineering .....	4
MATH 380 Statistics & Applications or IMSE 321	
Engineering Statistics & Data Analysis .....	3
	15
<b>Sixth Semester</b>	<b>Credits</b>
CIVE 334 Intro to Geotechnical Engineering .....	4
CIVE 352 Intro Water Resources Engineering .....	3
CIVE 378 Materials of Construction .....	3
CIVE 385 Professional Practice & Management .....	3
ACE Elective <sup>14</sup> .....	3
	16
<b>Seventh Semester</b>	<b>Credits</b>
Technical Elective <sup>18</sup> .....	3
Design Electives <sup>19</sup> .....	6
ACE Elective <sup>14</sup> .....	3
Science Elective <sup>20</sup> .....	4
	16
<b>Eighth Semester</b>	<b>Credits</b>
CIVE 489 Senior Design Project .....	3
Technical Electives <sup>18</sup> .....	9
Design Elective <sup>19</sup> .....	3
Professional Development Elective <sup>21</sup> .....	3
	18
<b>Total Credit Hours Required</b> .....	<b>130</b>

### Design Electives

CIVE 419. Flow Systems Design (3 cr)
CIVE 425. Environmental Engineering Process Design (3 cr)
CIVE 426. Design of Water Treatment Facilities (3 cr)
CIVE 427. Design of Wastewater Treatment & Disposal Facilities (3 cr)
CIVE 436. Foundation Engineering (3 cr)
CIVE 440. Reinforced Concrete Design I (3 cr)
CIVE 441. Steel Design I (3 cr)
CIVE 452. Water Resources Development (3 cr)
CIVE 460. Highway Design (3 cr)
CIVE 464. Traffic Control System Design (3 cr)

### Courses of Instruction (CIVE)

**[ES] 112. Introduction to Civil Engineering (1 cr) Lec 1.**  
Introduction to civil engineering as a career by use of case studies; alternate approaches to engineering designs illustrated by use of engineering principles.

**125. Ecology, the Environment, and the Engineer (3 cr)**  
Investigation into the nature of ecology, man's relation with the environment and man's chance of survival in that environment, and the potential influence, for good or bad, of modern man's activities.

**130. Computer-Aided Design (BSEN 130) (2 cr II) Lec 1, lab 3.**  
Prereq: AGEN/BSEN 112 or CIVE 112.  
For course description, see BSEN 130.

**221. Geometric Control Systems (CONE 221/2210 [UNO]) (3 cr) (UNL, UNO) Lec 2, lab 3. Prereq: MATH 106.**  
Introduction to the theory and application of mensuration and geometric information processing in civil engineering. Measurement of distance, direction, elevation, and location using

- <sup>18</sup> A description of allowable technical elective courses is available from the civil engineering department.  
<sup>19</sup> A full list of approved elective courses is available from the department.  
<sup>20</sup> Approved science elective courses include BIOL 101, CHEM 251 and 253, and GEOL 101.  
<sup>21</sup> A full list of approved professional development elective courses is available from the civil engineering department.

mechanical, electronic, and satellite systems. Collection of field data and error propagation. Elementary geometric data bases for design, construction, operation, and control of civil works.

**252. Construction Materials Laboratory (1 cr) Lab.** Prereq: MATH 106/106B/108H; CNST 251 or parallel.  
Introduction to ASTM and AASHTO standard procedures used to measure soil and concrete properties; common modifications to soil and concrete mixes are discussed and analyzed.

**[ES] 310. Fluid Mechanics (MECH 310) (3 cr) Prereq: ENGM 373; MATH 221. Parallel: MECH 200.**  
For description see MECH 310.

**[ES] 310H. Honors: Fluid Mechanics (3 cr) Prereq: Good standing in the University Honors Program or by invitation; ENGM 373, MATH 221**  
Honor students required to study beyond levels expected of students in normal sections and prepare a special report.

**319. Hydraulics Laboratory (1 cr) Lab 3.** Prereq or parallel: CIVE 310.  
Hydraulics experiments and demonstrations. Velocity, pressure and flow measurements; pipe flow, open channel flow; hydraulic structures and machinery, hydrologic and sediment measurements and student projects.

**[ES] 326. Introduction to Environmental Engineering (BSEN 326) (3 cr) Prereq: CHEM 110 or 111 or 113, and MATH 221.**  
Introduction to principles of environmental engineering including water quality, atmospheric quality, pollution prevention, and solid and hazardous wastes engineering. Design of water, air, and waste management systems.

**326H. Honors: Introduction to Environmental Engineering (BSEN 326H) (3 cr) Prereq: Good standing in the University Honors Program or by invitation; CHEM 110 or 111 or 113, and MATH 221.**  
Introduction to principles of environmental engineering including water quality, atmospheric quality, pollution prevention, and solid and hazardous wastes engineering. Design of water, air, and waste management systems.

**327. Environmental Engineering Laboratory (BSEN 327) (1 cr) Lab 3.** Prereq: CHEM 110 or 111 or 113, and MATH 221. Parallel: CIVE/BSEN 326.  
Environmental engineering experiments, demonstrations, field trips, and projects. Experiments include the measurement and determination of environmental quality parameters such as solids, dissolved oxygen, biochemical and chemical oxygen demand, and alkalinity.

**328. Concrete Materials (2 cr I, II) Lec 1, lab 3.** Prereq: CHEM 111 and ENGM 223.  
Physical properties of cement and concrete. Sampling, testing, inspecting. Design of mixtures. Factors affecting strength. Specifications. Building forms and placing concrete.

**334. Introduction to Geotechnical Engineering (4 cr) Lec 3, lab 3.** Prereq: ENGM 325. Parallel: CIVE 310.  
Soil composition, structure and phase relationships; soil classification. Principles of effective stress; loading induced subsurface stresses; load history; deformation and failure of soils. Elastic and limit analysis with applications to design for bearing capacity, settlement, retaining walls, and slope stability. Steady-state seepage.

**341. Introduction to Structural Engineering (4 cr) Lec 3, lab 2.** Prereq: ENGM 325.  
Introduction to the analysis and design of structural systems. Analyses of determinate and indeterminate trusses, beams, and frames, and design philosophies for structural engineering. Laboratory experiments deal with the analysis of determinate and indeterminate structures.

**352. Introduction to Water Resources Engineering (3 cr) Lec 3, lab 2.** Prereq: CIVE/MECH 310.  
Introduction to water resources engineering design and planning, surface hydrology, ground water hydraulics, reservoirs, and other control structures. Introduction to field measurement and computational methods in water resources.

**353/853. Hydrology (NRES 853) (3 cr) Prereq: MATH 106, not available for credit for engineering students.**  
Introduction to the principles of hydrology, with emphasis on the components of the hydrologic cycle: precipitation, evaporation, groundwater flow, surface runoff, infiltration, precipitation runoff relationships.

**361. Highway Engineering (3 cr) Lec 3.** Prereq: CIVE/CONE 221 (CONE 2210 [UNO]) and ENGM 223.  
Introduction to the principles of highway engineering and traffic operations and control.

**378. Materials of Construction (3 cr) Lec 2, lab 2.** Prereq: ENGM 325.  
Introduction to the behavior, testing, and design of soil, portland cement concrete, steel, wood and composites. Experiments covering the concepts of stress and strain under axial, torsional, shear and flexural loading conditions. Common ASTM laboratory test procedures and specifications, field quality control tests and statistical applications.

**385 . Professional Practice and Management in Civil Engineering (3 cr) Lec 3.** Prereq: Junior standing and CIVE major.  
Basic elements of civil engineering practice. Roles of all participants in the process-owners, designers, architects, contractors, and suppliers. Basic concepts in business management, public policy, leadership, and professional licensure. Professional relations, civic responsibilities, and ethical obligations for engineering practice. Project management, contracts, allocation of resources, project estimating, planning, and controls.

**[ES] 401/801. Civil Engineering Systems (3 cr) Lec 3.** Prereq: MATH 221.  
Systems analysis approach to civil engineering problems. Systems model elements and principles of systems theory with applications to civil engineering.

**419/819. Flow Systems Design (3 cr) Lec 3.** Prereq: CIVE 326 or CIVE 327; parallel CIVE 352.  
Application of hydraulic principles to the design of water distribution systems, sanitary and stormwater collection systems, channelized flow systems, and pumping facilities.

**[ES] 421/821. Hazardous Waste Management and Treatment (3 cr) Prereq: CIVE/BSEN 326.**  
Survey of the hazardous waste management system in the USA. State and federal hazardous waste regulations. Chemical characteristics of hazardous waste and unit operations and processes used for treatment of soil, water, and air.

**422/822. Pollution Prevention: Principles and Practices (BSEN 422/822) (3 cr) Prereq: Permission.**  
Introduction to pollution prevention (P2) and waste minimization methods. Practical applications to small businesses and industries. Legislative and historical development of P2 systems analysis, waste estimation, P2 methods, P2 economics, and sources of P2 information.

**424/824. Solid Waste Management Engineering (3 cr) Lec 3.** Prereq: CIVE 326, 334.  
Planning, design and operation of solid and waste collection processing, treatment, and disposal systems including materials, resources and energy recovery systems.

**425. Process Design in Water Supply and Wastewater Treatment (BSEN 425) (3 cr) Lec 3.** Prereq: CIVE/BSEN 326 and CIVE/MECH 310.  
Design of unit operations and processes associated with drinking water and wastewater treatment facilities.

**426/826. Design of Water Treatment Facilities (3 cr) Prereq: CIVE 425 or permission.**  
Analysis of water supplies and design of treatment and distribution systems.

**427/827. Design of Wastewater Treatment and Disposal Facilities (3 cr) Prereq: CIVE 425 or permission.**  
Analysis of systems for wastewater treatment and disposal.

**430/830. Fundamentals of Water Quality Modeling (3 cr) Prereq: CIVE 326.**  
Comprehensive study of water quality and the effects of various water pollutants on the aquatic environment; modeling of water quality variables.

**431/831. Small Treatment Systems (3 cr) Lec 3.** Prereq: Parallel CIVE/BSEN 425.  
Design of small and decentralized waste water management systems.

**432/832. Bioremediation of Hazardous Wastes (3 cr) Lec 3.** Prereq: CIVE/BSEN 326 and CIVE/MECH 310.  
Principles, applications, and limitations of bioremediation of hazardous wastes and design of some bioremediation systems.

**434/834. Soil Mechanics II** (3 cr) Lec 3, lab 3. Prereq: CIVE 334. Application of the effective stress principle to shear strength of cohesive soil; analysis of stability of slopes. Development of continuum relationships for soil; solutions for stresses and displacements for an elastic continuum. Solution of the consolidation equation for various initial and boundary conditions.

**434L/834L. Soil Mechanics II Lab** (1 cr) Lab 1. Prereq: CIVE 334 and parallel CIVE 434.

Determination of shear strength, deformation characteristics, permeability, and custom soil testing protocols to characterize soil behavior as part of slope stability analysis and design, solid waste containment, and finite element modeling.

**436/836. Foundation Engineering** (3 cr) Lec 3. Prereq: CIVE 334. Optional lab CIVE 436L/836L.

Subsoil exploration and interpretation; selection of foundation systems; determination of allowable bearing capacity and settlement; design of deep foundations; pile driving analysis; control of groundwater.

**436L/836L. Foundation Engineering Lab** (1 cr) Lab 1. Prereq: CIVE 334.

Determination of shear strength, consolidation characteristics, and custom soil testing protocols to characterize soil behavior as part of foundation analysis and design.

**440. Reinforced Concrete Design I** (3 cr) Lec 3. Prereq: CIVE 341. Introduction to the design concepts of reinforced concrete building components. The design of flexural and compression members, simple walls, foundations, and floor systems using the latest American Concrete Institute (ACI) design requirements.

**441. Steel Design I** (3 cr) Lec 3. Prereq: CIVE 341. Introduction to the design concepts for structural steel building components. Design of tension members, bolted and welded connections, column members, and beam members. Limit states design concepts used throughout, and emphasis on behavior of members and code design procedures.

**443. Structural Analysis** (3 cr) Lec 3. Prereq: CIVE 441 or parallel. Continuation of analysis for structural systems. Matrix analysis methods and computer solutions for indeterminate structures. Moment distribution method. Introduction to analysis for nonlinear effects.

**444/844. Structural Design and Planning** (3 cr) Lec 2, lab 2. Prereq: CIVE 440 and 441. *CIVE 844 is not available for graduate credit for civil engineering students.* Principles of design of steel and reinforced concrete structural building systems, planning of building vertical and horizontal load resisting systems, and bridge systems. Several design projects involve indeterminate analysis and design concepts for both steel and reinforced concrete.

**446/846. Steel Design II** (3 cr) Prereq: CIVE 441. *CIVE 446/846 is a continuation of the topics covered in CIVE 441.* The principles and procedures used in design of steel buildings, design of plate girders, design and analysis of building systems, design and analysis of composite steel-concrete building systems, innovative building systems, introduction to seismic design of steel buildings. Plate buckling, beam, column and beam-column design, and frame stability. Introduction to connection design.

**447/847. Reinforced Concrete Design II** (3 cr) Lec 3. Prereq: CIVE 440/840. *CIVE 447/847 is a continuation of topics covered in CIE 440/840.* Shear friction theory, strut-and-tie modeling, anchorage, deflection, slender and bi-axially loaded members, torsion, two-way action and punching shear, and footing design. Excel spreadsheets are developed and used for various design tasks.

**451/851. Introduction to Finite Element Analysis** (ENGM 451/851) (3 cr) Prereq: ENGM 325 and 480 or permission. For course description, see ENGM 451/851.

**452/852. Water Resources Development** (3 cr) Prereq: CIVE 352.

Theory and application of systems engineering with emphasis on optimization and simulation techniques for evaluating alternatives in water resources developments related to water supply, flood control, hydroelectric power, drainage, water quality, water distribution, irrigation, and water measurement.

**454/854. Hydraulic Engineering** (3 cr) Lincoln lec 2, lab 3; Omaha lec 3. Prereq: CIVE 352. Fundamentals of hydraulics with applications of mechanics of

solids, mechanics of fluids, and engineering economics to the design of hydraulic structures. Continuity, momentum, and energy principles are applied to special problems from various branches of hydraulic engineering.

**455/855. Nonpoint Source Pollution Control Engineering** (BSEN 455/855) (3 cr) Prereq: BSEN/CIVE 326; BSEN/AGEN 350 or CIVE 352; or permission.

For description, see BSEN 455/855.

**456/856. Surface Water Hydrology** (3 cr) Prereq: CIVE 352 or 353/853 or permission.

Stochastic analysis of hydrological data and processes including rainfall, runoff, infiltration, temperature, solar radiation, wind, and non-point pollution. Space-time hydrologic modeling with emphasis on the application of techniques in the design of engineering projects.

**458/858. Groundwater Engineering** (BSEN 458/858) (3 cr) Prereq: CIVE 352 or AGEN/BSEN 350 or equivalent.

Application of engineering principles to the movement of groundwater. Analysis and design of wells, well fields, and artificial recharge. Analysis of pollutant movement.

**459/859. Reliability of Structures** (3 cr) Lec 3. Prereq: Parallel CIVE 341.

Fundamental concepts related to structural reliability, safety measures, load models, resistance models, system reliability, optimum safety levels, and optimization of design codes.

**460. Highway Design** (3 cr) Prereq: CIVE 361.

Design of roadways, intersections, interchanges, parking facilities, and land development site access and circulation. Emphasis on design projects.

**461/861. Urban Transportation Planning** (3 cr) Prereq: CIVE 361.

Development of urban transportation planning objectives and goals. Data collection procedures, land use and travel forecasting techniques, trip generation, trip distribution, modal choice analyses, and traffic assignment. Site development and traffic impact analysis.

**462/862. Airport Planning and Design** (3 cr) Prereq: CIVE 361. Planning and design of general aviation and air carrier airports. Landside components include vehicle ground-access systems, vehicle circulation parking, and terminal buildings. Airside components include aircraft apron-gate area, taxiway system, runway system, and air traffic control facilities and airspace. Emphasis on design projects.

**464. Traffic Control System Design** (3 cr) Prereq: CIVE 361.

Design of signalized intersections, arterial street and network signal systems, and freeway control systems. Emphasis on design projects.

**468/868. Bituminous Materials and Mixtures Lab** (3 cr) Lab, rct. Prereq: CIVE 378 or equivalent.

The physical, chemical, geometrical, and mechanical characteristics and practical applications of bituminous materials as mixtures. Fundamental mechanics for elastic and inelastic materials and basic theories associated with mechanical data analyses and designs. Recent advances and significant research outcomes. Applications of theories to laboratory testings.

**469/869. Pavement Design and Evaluation** (3 cr) Lec 3. Prereq: CIVE 334.

Thickness design of flexible and rigid pavement systems for highways and airports; design of paving materials; evaluation and strengthening of existing pavements.

(ACE 10) **475/875. Water Quality Strategy** (AGRO, CRPL, GEOL, MSYM, NRES, POLS, SOCI 475/875; SOIL, WATS 475) (3 cr II) Lec 3. Prereq: Senior standing or permission. For course description, see AGRO 475/875.

**476. Construction Cost Controls** (CNST 476) (3 cr) Prereq: ACCT 306 or 201 and 202.

Development of cost accounting principles and financial controls appropriate for construction contractors. Includes purchasing policies and procedures, labor and equipment cost reporting techniques, accounting procedures for control of materials and supplies, billing methods, principles of financial reporting and analysis.

**485/885. Computer-Aided Interchange Design** (3 cr) Lec, lab. Prereq: CIVE 460.

Principles of high-speed traffic operations, safety, and decision making related to critical design parameters used for optimal

interchange geometric designs through development of an interchange design project using graphical and civil engineering software.

(ACE 10) [IS] **489. Senior Design Project** (3 cr) Ind. Parallel: Senior standing and CIVE 385. *CIVE 489 requires the formulation and completion of a civil engineering design project.*

(ACE 10) [IS] **489H. Honors: Senior Design Project** (3 cr) Lec 3. Prereq: Senior standing; good standing in the University Honors Program or by invitation. *CIVE 489H requires study beyond the level expected of a non-honors section and requires the preparation of a special report.*

**498/898. Special Topics in Civil Engineering** (1-6 cr, max 6) Lec. Prereq: Permission.

Special problems, topics, or research in civil engineering.

**499H. Honors Thesis** (1-3 cr) Prereq: Senior standing in civil engineering and admission in the University Honors Program. Honors thesis research project meeting the requirements of the University Honors Program. Independent research project executed under the guidance of a member of the faculty of the Department of Civil Engineering which contributes to the advancement of knowledge in the field. Culminates in the presentation of an honors thesis to the Department and College.

**823. Physical and Chemical Treatment Processes in Environmental Engineering** (3 cr) Prereq: CIVE 326, 425 or permission.

**828. Environmental Engineering Chemistry** (3 cr) Lec 2, lab 3. Prereq: CIVE 326.

**829. Biological Waste Treatment** (3 cr) Lec 2, lab 3. Prereq: CIVE 326.

**835. Experimental Soil Mechanics** (2 cr) Prereq: CIVE 834 or permission.

**842. Structural Dynamics** (3 cr) Prereq: CIVE 443.

**848. Nonlinear Structural Analysis** (3 cr) Prereq: CIVE 443 or permission.

**849. Reinforced Masonry Design** (3 cr) Prereq: CIVE 440 or permission.

**850. Prestressed Concrete** (3 cr) Prereq: CIVE 341 and 440.

**857. Applied Structural Analysis** (3 cr) Prereq: CIVE 451/851.

**863. Highway Geometrics** (3 cr) Prereq: CIVE 361.

**864. Traffic Characteristics** (3 cr) Prereq: CIVE 361, MATH 380.

**866. Transportation Planning and Economics** (3 cr)

**867. Transportation Safety Engineering** (3 cr)

**898. Special Topics in Civil Engineering** (1-6 cr)

**899. Masters Thesis** (6-10 cr)

Refer to the Graduate Bulletin for 900-level courses.

## Department of Computer Science and Engineering

**Chair:** Steve Goddard, 256 Avery Hall

**Chief Undergraduate Adviser:** Charles P. Riedesel

**Professors:** Deogun, Dwyer, Goddard, Jiang, Reichenbach, Revesz, Rothermel, Seth, Sincovec, Surkan (emeritus)

**Associate Professors:** Choueiry, Elbaum, Ramamurthy, Samal, Scott, Soh, Srisa-An, Variyam

**Assistant Professors:** Cohen, Lu, Vuran, Xu

**Research Associate Professor:** Swanson

**Assistant Professor of Practice:** Riedesel

**Senior Lecturer:** Chandra

**Lecturer:** Suing

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The UNL Computer Science and Engineering (CSE) Department offers Nebraska's only comprehensive program of higher education, research, and service outreach in computer science and computer engineering.

The CSE Department offers a challenging baccalaureate degree program in computer engineering that prepares graduates for professional practice in commerce, industry, and government, and for post-graduate education to enter careers in research and academia.

The focus of the program is integrated hardware/software system design. Increasingly, diverse systems, products, and processes depend on computers for design, control, data acquisition, and other functions. The computer engineer is the one person with the range of expertise to have an integrated view of computer-based systems and to make global design decisions.

Consistent with this focus, the computer engineering baccalaureate program develops:

- The ability to view the computer systems as an integrated continuum of technologies and to engage in integrated system-level design. Studies include mathematics, logic design, computer organization and architecture, operating systems, systems programming, and systems design.
- The ability to work with professionals in related fields over the spectrum of system design. Studies include computer science, physical sciences, engineering principles, and digital electronics.
- Skills to quickly adapt to new work environments, assimilate new information, and solve new problems. Studies include communication, teamwork, problem-solving, and broadbased expertise.
- The background and perspective for post-graduate education. Studies develop critical thinking, depth of knowledge, and a foundation for life-long learning.
- An understanding of the social, political, and environmental aspects of professional practice. Studies include ethics, humanities, and social sciences.
- Insight into the world of practicing professionals, including the concepts of collaboration, mutual support, and representing the profession to government and society. Practice includes a continual and varied participation in professional organizations such as ACM and IEEE.

The CSE Department also offers a degree of bachelor of science in computer science through the College of Arts and Sciences. (See "Computer Science and Engineering" on page 156.) All students majoring in the CSE Department should see their advisers during their first semester to make sure they understand the differences in the requirements of the two programs. Majors should consult with their advisers each semester for registration advising.

**Graduate Programs.** The CSE Department offers several graduate degree programs: master of science in computer science, master of science with computer engineering specialization, master of science in computer science with bioinformatics specialization, doctor of philosophy in computer science, doctor of philosophy in engineering with computer engineering specialization, doctor of philosophy in computer science with bioinformatics specialization, and a doctor of philosophy in information technology.

## Requirements for the Degree of Bachelor of Science in Computer Engineering (Lincoln campus)

The computer engineering degree requires 129 hours of course work. There is a set of required core courses in computer science and engineering (36-39 credit hours), electrical engineering (28 credit hours), mathematics (20 credit hours), and physics and chemistry (12 credit hours). Students select technical electives (9 credit hours) from the list below. At least 6 of these 9 credit hours must be from CSCE or RAIK courses. The department maintains a list of CSCE 496 Special Topics selections that may be substituted as technical electives. Students must complete the humanities and social science requirements of the college (12 hours), two technical writing courses, and the college's freshmen and sophomore seminars.

**Technical Electives:** CSCE 322, 378, 410, 413, 421, 425, 432, 434, 435, 451, 455, 456, 457, 463, 464, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479; RAIK 301H, 302H, 383H, 401H, 402H; ELEC 306, 416, 417, 462, 463, 464, 465, 469, 470, 476, 479

Up to 3 hours of CSCE 491 (internship) can be used as a technical elective. See your adviser for more information.

### Typical Schedule

First Semester	Credits
CSCE 155 Computer Science I <sup>22</sup> .....	4
CSCE 251 Unix Programming.....	1
ENGR 010 Freshman Engineering Seminar.....	0
MATH 106 Analytic Geometry & Calculus I.....	5
ACE Elective <sup>23</sup> .....	3
Free Elective.....	3
	16

Second Semester	Credits
CSCE 156 Computer Science II <sup>22</sup> .....	4
CSCE 230 Computer Organization <sup>24</sup> .....	3
CSCE 230L Computer Organization Lab <sup>22</sup> .....	1
MATH 107 Analytic Geometry & Calculus II.....	5
PHYS 211 General Physics I.....	4
	17

<sup>22</sup> As part of the required core courses in computer science and engineering, students in the Raikes School take RAIK 183H, 184H, and 283H.  
<sup>23</sup> Choose one course each from ACE outcomes 5, 6, 7, and 9 elective courses shown on page 383.  
<sup>24</sup> Double majors in electrical engineering may elect to take only one of the senior design courses (CSCE 489 and ELEC 495). To substitute ELEC 495 for CSCE 489, students must first obtain permission from the CSE Department and the design project must be supervised by the CSCE 489 instructor.

Third Semester	Credits
CSCE 235 Discrete Structures <sup>22</sup> .....	3
ELEC 215 Electronics & Circuits I.....	3
ELEC 235 Introductory Electrical Lab I.....	1
ENGR 020 Sophomore Engineering Seminar.....	0
MATH 208 Analytic Geometry & Calculus III.....	4
PHYS 212 General Physics II.....	4
	15

Fourth Semester	Credits
CSCE 310 Data Structures & Algorithms <sup>22</sup> .....	3
ELEC 216 Electronics & Circuits II.....	3
ELEC 236 Introductory Electrical Lab II.....	1
ELEC 370 Digital Logic Design.....	3
JGEN 200 Technical Communication I.....	3
MATH 221 Differential Equations.....	3
	16

Fifth Semester	Credits
CHEM 109 General Chemistry I.....	4
CSCE 351 Operating System Kernels.....	3
CSCE 361 Software Engineering <sup>22</sup> .....	3
ELEC 304 Continuous Time Signals & Systems.....	3
ELEC 316 Electronics & Circuits III.....	3
	16

Sixth Semester	Credits
CSCE 462 Communication Networks.....	3
ELEC 305 Probability Theory & Intro to Random Processes.....	3
ELEC 307 Electrical Engineering Lab I.....	2
ELEC 361 Advanced Electronics & Circuits.....	3
ELEC 475 Digital Systems.....	3
MATH 314 Applied Linear Algebra.....	3
	17

Seventh Semester	Credits
CSCE 340 Numerical Analysis I.....	3
CSCE 430 Computer Architecture.....	3
CSCE 488 Computer Engineering Professional Development.....	2
JGEN 300 Technical Communication II.....	3
ACE Electives <sup>23</sup> .....	6
	17

Eighth Semester	Credits
CSCE 489 Computer Engineering Senior Design Project <sup>24</sup> .....	3
Technical Electives #1, #2, and #3.....	9
ACE Elective <sup>23</sup> .....	3
	15

### Total Credit Hours Required.....129

Applicants for formal admission to computer engineering must meet the usual college requirements plus a minimum grade rule on the following core courses (or their equivalents):

Grades of C+ or higher in MATH 106, 107, 208; PHYS 211, 212; ELEC 215, 235; CSCE 155, 156, 230, 230L, 235

**Program Assessment.** In order to assist the department in evaluating the effectiveness of its programs, majors will be required in their senior year to complete a written exit survey.

**Computer Science Placement Policy.** The required Computer Science and Engineering Placement Exam (CSEPE) is used to assess students' background in problem solving, computer programming, and relevant mathematics. Results of the CSEPE recommend placement in CSCE 150A, CSCE 150E, CSCE 150M, CSCE 155, or CSCE 156. Students who have not taken a recognized UNL or transfer prerequisite course with a grade of C or better must take the CSEPE.

## Courses of Instruction (CSCE)

CSCE 155 is the first course for students majoring or minoring in computer science or computer engineering and for students in other fields who plan to take additional CSCE courses. Any version of CSCE150 prepares students for CSCE 155. CSCE 156 is for advanced students with experience in object-oriented design and programming. CSCE 101 and 101L are for students seeking a broad introduction to computing with only brief instruction in computer programming.

**[ES] 101. Basics of Computing** (3 cr) Lec 3. *Intended for non-CSCE majors who desire a deeper understanding of computers and the work of computer scientists. CSCE 101 is a course in the science of computation and is suitable for non-CSCE majors and prospective CSCE majors.*

Introduction to the breadth of computer science. Hardware, software, networks, theory, and social issues.

**[ES] 101L. Fundamentals of Computing Laboratory** (1 cr) Lab 3. Prereq: CSCE 101 or parallel. *Will not count towards the requirements for a major or minor in computer science and computer engineering.*

A variety of computer oriented exercises using many software tools is presented which supplement and are coordinated with the topics taught in CSCE 101. Students are exposed to programming, operating systems, simulation software, spreadsheets, database software, the Internet, etc. Applications software introduced in the context of tools to explore the computer science topics and as alternatives to traditional programming languages. Emphasis on learning by experiment, with a goal of developing problem solving skills. A major component is the study of a programming language—the choice of which may vary by course section.

**[ES] 150A. Introduction to Problem Solving with Computers** (3 cr) Lec 3. Prereq: Four years high school mathematics. CSCE 150A is designed to develop skills in programming and problem solving to prepare for CSCE 155. CSCE 150A, CSCE 150E, and CSCE 150M do not count toward the requirements for the major in computer science and computer engineering. Credit toward the degree may be earned in only one of: CSCE 150A or CSCE 150E or CSCE 150M or CSCE 252A

Problem solving with a computer and programming fundamentals using a popular high-level language. Logic and functions that apply to computer science; elementary programming constructs, type, and algorithmic techniques.

**[ES] 150E. Introduction to Computer Programming for Scientists and Engineers** (3 cr) Lec 3, lab 1. Prereq: 4 years high school mathematics. CSCE 150E is designed for computer applications in the sciences and engineering. CSCE 150A, CSCE 150E, and CSCE 150M do not count toward the requirements for the major in computer science and computer engineering. Credit towards the degree may be earned in only one of: CSCE 150A or CSCE 150E or CSCE 150M or CSCE 252A.

Introduction to computers and problem-solving with computers for applications in the sciences and engineering. Problem analysis and specification, algorithms, programming in a high-level language, and data representation and processing.

**[ES] 150M. Multimedia Approach to Computing** (3 cr) Lec 3. Prereq: Four years high school mathematics. CSCE 150M is designed to develop skills in programming, problem solving, and multimedia applications. CSCE 150A, CSCE 150E, and CSCE 150M do not count toward the requirements for the major in computer science or the major in computer engineering. Credit towards the degree may be earned in only one of: CSCE 150A or CSCE 150E or CSCE 150M or CSCE 252A.

Computer-based problem solving and programming fundamentals using a popular high-level programming language and the creation and manipulation of media including audio, video, and images. Algorithms, data structures, control structures, information encoding, and object-oriented programming.

**(ACE 3) [ES] 155. Computer Science I** (4 cr) Lec 3, lab 2. Prereq: Appropriate score on the CSE Placement Exam or a grade of "Pass" or "C" or better in CSCE 150A or 150E or 150M; MATH 103.

Introduction to problem-solving with computers. Object-oriented problem analysis and specification, algorithm development, program design, implementation, testing, and debugging.

Event-driven programming, inheritance, polymorphism, data abstraction, encapsulation, documentation, recursion, exception handling, and graphical user interface design.

**(ACE 3) [ES] 155H. Honors: Computer Science I** (4 cr) Lec 3, lab 2. Prereq: Good standing in the University Honors Program or by invitation; appropriate score on the CSE Placement Exam or a grade of "Pass" or "C" or better in CSCE 150A or 150E or 150M; MATH 103. CSCE. *CSCE 155H covers the same topics as CSCE 155, but in greater depth.*

For course description, see CSCE 155.

**(ACE 3) [ES] 156. Computer Science II** (4 cr) Lec 3, lab 2. Prereq: Appropriate score on the CSE Placement Exam or a grade of "Pass" or "C" or better in CSCE 155 or 155H; MATH 103 or equivalent. *Laboratories supplement the lecture material and give an opportunity to practice concepts.*

Different programming languages, the use of data structures, implementation of a three-tier application. Basic programming language paradigms, memory management, pointers and references, declarations and types, and abstract mechanisms; using, implementing, and introduction to analysis of basic data structures. Linked-lists, stacks, queues and trees; searching and sorting; databases, table design, SQL queries, and use in applications.

**(ACE 3) [ES] 156H. Honors: Computer Science II** (4 cr) Lec 3, lab 2. Prereq: Good standing in the University Honors Program or by invitation; appropriate score on the CSE Placement Exam or a grade of "Pass" or "C" or better in CSCE 155 or 155H; MATH 103 or equivalent. *CSCE 156H covers the same topics as CSCE 156, but in greater depth. Laboratories supplement the lecture material and give an opportunity to practice concepts.*

For course description, see CSCE 156.

**(ACE 3) [ES] 183H. Honors: Computer Problem Solving Essentials** (RAIK 183H) (4 cr) Lec 3, rct 1. Prereq: Good standing in the University Honors Program; admission to the Jeffrey S. Raikes School of Computer Science and Management. *CSCE/RAIK 183H is the first course in the Jeffrey S. Raikes School of Computer Science and Management core. CSCE/RAIK 183H has programming laboratory activities.*

Introduction to problem solving with computers. Problem analysis and specification, algorithm development, program design, and implementation. JAVA in a Windows platform.

**[ES] 184H. Honors: Software Development Essentials** (RAIK 184H) (4 cr) Lec 4. Prereq: Good standing in the University Honors Program; admission to the Jeffrey S. Raikes School of Computer Science and Management; and CSCE/RAIK 183H. *CSCE/RAIK 184H is the second course in the Jeffrey S. Raikes School of Computer Science and Management core.*

Problem solving with computers. Problem analysis and specification, data structures, relational databases, algorithm development, and program design and implementation. Discrete mathematics topics; propositional and predicate logic, sets, relations, functions, and proof techniques. C++, SQL, Windows, Standard Template Library, and Software Development Principles.

**190. Special Topics in Computer Science** (1-3 cr, max 6) Prereq: Permission. *CSCE 190 will not count towards a major or minor in computer science and computer engineering.*

Aspects of computers and computing at the freshman level for non-computer science and computer engineering majors and/or minors. Topics will vary.

**196. Special Topics in Computer Science** (1-3 cr, max 6) Prereq: Permission.

Aspects of computers and computing for computer science and computer engineering majors and minors. Topics vary.

**[ES][IS] 230. Computer Organization** (3 cr) Lec 3, rct 1. Prereq: Grade of "P" or "C" or better in CSCE 101 or 105 or 150 or 155H, or detailed knowledge of a high-level programming language; parallel CSCE 230L.

Introduction to organization and structure of computer systems. Boolean Logic, Digital Arithmetic, Processor Organization, Machine Language Programming, Input/Output, Memory Organization, System Support Software, and Communication.

**[ES][IS] 230H. Honors: Computer Organization** (3 cr) Lec 4. Prereq: Good standing in the University Honors Program or by invitation; grade of "P" or "C" or better in CSCE 101 or 105 or 150 or 155 or 155H, or detailed knowledge of a high-level programming language; parallel CSCE 230L. *CSCE 230H covers the same topics as CSCE 230, but in greater depth.*

For course description, see CSCE 230.

**[ES] 230L. Computer Organization Laboratory** (1 cr) Lab 2. Prereq: Grade of "P" or "C" or better in CSCE 101 or 105 or 150 or 155H, or detailed knowledge of a high-level programming language; parallel CSCE 230 or 230H. *CSCE 230L includes a project designing and implementing a processor.*

Computer-aided tools to provide practice and reinforcement of concepts and techniques learned in CSCE 230 or 230H. Assembler programming and arithmetic and logic function design.

**[ES] 235. Introduction to Discrete Structures** (3 cr) Lec 3, rct 1. Prereq: Grade of "Pass" or "C" or better in CSCE 155/155H; MATH 106/108H or equivalent. *Theoretical concepts with programming assignments.*

Survey of elementary discrete mathematics. Elementary graph and tree theories, set theory, relations and functions, propositional and predicate logic, methods of proof, induction, recurrence relations, principles of counting, elementary combinatorics, and asymptotic notations.

**251. Unix Programming Environment** (1 cr) Lec 1, lab 1.

Prereq: Familiarity with at least one high-level programming language.

Introduction to the Unix operating system. Unix file system. Unix tools and utilities. Shell programming.

**251K. C Programming** (1 cr) Lab 1. Prereq: Familiarity with one high-level programming language. *Required of computer science and engineering majors who do not know C, but who have knowledge of another high-level language.*

Introduction to the C programming language.

**252A. FORTRAN Programming** (1 cr) Lec 1. Prereq: Familiarity with one high-level programming language. *Credit towards the degree maybe earned in only one of: CSCE 150A or CSCE 150E or CSCE 150M or CSCE 252A.*

Principles and practice of FORTRAN programming.

**[ES] 283H. Honors: Foundations of Computer Science** (RAIK 283H) (3 cr) Lec 3. Prereq: Good standing in the University Honors Program; admission to the Jeffrey S. Raikes School of Computer Science and Management; and CSCE/RAIK 184H. *CSCE/RAIK 283H is the third course in the Jeffrey S. Raikes School of Computer Science and Management core.*

Advanced data structures and algorithms that solve common problems and standard approaches to solving new problems. Analysis and comparison of algorithms, asymptotic notation and proofs of correctness. Discrete mathematics. Induction and principles of counting and combinatorics as foundation for analysis.

**[ES] 284H. Honors: Foundations of Computer Systems** (RAIK 284H) (4 cr) Lec 4, rct 1. Prereq: Good standing in the University Honors Program; admission to the Jeffrey S. Raikes School of Computer Science and Management; and CSCE/RAIK 283H. *Fourth course in the Jeffrey S. Raikes School of Computer Science and Management core.*

Introduction to fundamental organization and structure of computer systems. Boolean logic, data representation, processor organization, input/output, memory organization, system support software and communication.

**290. Special Topics in Computer Science** (1-3 cr, max 6) Prereq: Permission. *CSCE 290 will not count towards a major or minor in computer science and computer engineering.*

Aspects of computers and computing for non-computer science and computer engineering majors and/or minors. Topics vary.

**296. Special Topics in Computer Science** (1-3 cr, max 6) Prereq: Permission.

Aspects of computers and computing for computer science and computer engineering majors and minors. Topics vary.

**301H. Honors: RAIK Design Studio I** (RAIK, BSAD 301H) (3 cr) Lec 3, lab. Prereq: Good standing in the University Honors Program or by invitation; admission to the Jeffrey S. Raikes School of Computer Science and Management; and BSAD/RAIK 282H; and CSCE/RAIK 284H. *First semester of Jeffrey S. Raikes School of Computer Science and Management design studio sequence.*

For course description, see RAIK 301H.

**302H. Honors: RAIK Design Studio II** (RAIK, BSAD 302H) (3 cr) Lec 3, lab. Prereq: Good standing in the University Honors Program or by invitation; admission to the Jeffrey S. Raikes School of Computer Science and Management; and BSAD/CSCE/RAIK 301H. *Second semester in the Jeffrey S. Raikes School of Computer Science and Management design studio sequence.*

For course description, see RAIK 302H.

**[IS] 310. Data Structures and Algorithms** (3 cr) Lec 3, rct 1. Prereq: Grade of "Pass" or "C" or better in CSCE 156/156H and 235. *Theoretical concepts with programming assignments.* Algorithm analysis, asymptotic notation, and solving recurrence relations. Basic data structures (linked-lists, stacks, queues). Advanced data structures and their associated algorithms, heaps, priority queues, hash tables, trees, binary search trees, and graphs. Advanced sorting algorithms, and algorithmic techniques, randomization, divide and conquer, greedy algorithms, dynamic programming, and distributed algorithms. Introduction to computability and NP-completeness.

**322. Programming Language Concepts** (3 cr) Lec 3. Prereq: Grade of "Pass" or "C" or better in CSCE 156/156H and 230. List-processing, string-processing, and other types of high-level programming languages. Fundamental concepts of data types, control structures, operations, and programming environments of various programming languages. Analysis, formal specification, and comparison of language features.

**335. Digital Logic Design** (ELEC 370) (3 cr) Prereq: ELEC 121 or CSCE 230.

For course description, see ELEC 370.

**340/840. Numerical Analysis I** (MATH 340/840) (3 cr) Lec 3. Prereq: Grade of "Pass" or "C" or better in CSCE 150E or 155/155H; MATH 208/208H. *Credit toward the degree may be earned in only one of the following: CSCE/MATH 340/840 and ENGM 480/880.*

Algorithm formulation for the practical solution of problems, interpolation, roots of equations, differentiation, and integration. Effects of finite precision.

**351. Operating System Kernels** (3 cr) Lec 2, lab 2. Prereq: Grade of "Pass" or "C" or better in CSCE 230/230H, 230L, and 310. *Lab content reinforces concepts through practice.*

Design and implementation of operating system kernels. Bootstrapping and system initialization, process context switching, I/O hardware and software, DMA, I/O polling, interrupt handlers, device drivers, clock management. Substantial programming implementing or extending an instructional operating system kernel.

**[IS] 361. Software Engineering** (3 cr) Lec 3. Prereq: Grade of "Pass" or "C" or better in CSCE 310. *CSCE 361 requires participation in a group design and implementation of a software project.* Techniques used in the disciplined development of large software projects. Software requirements analysis and specifications, program design, coding and integration testing, and software maintenance. Software estimation techniques, design tools, and complexity metrics.

**[IS] 378. Human-Computer Interaction** (3 cr) Lec 3. Prereq: CSCE 156. STAT 380 recommended. Knowledge and techniques useful in the design of computing systems for human use. Includes models of HCI, human information processing characteristics important in HCI, computer system features, such as input and output devices, dialogue techniques, and information presentation, task analysis, prototyping and the iterative design cycle, user interface implementation, interface evaluation.

**383H. Honors: Fundamentals of Software Engineering** (RAIK 383H) (3 cr) Lec 3. Prereq: Good standing in the University Honors Program; admission to the Jeffrey S. Raikes School of Computer Science and Management; CSCE/RAIK 284H. *Fifth course in the Jeffrey S. Raikes School of Computer Science and Management core.*

Proper principles and methods of engineering software. Requirements, design, implementation, management and software evolution.

**384H. Honors: Applied Numerical Analysis** (RAIK 384H) (3 cr) Lec 3. Prereq: Good standing in the University Honors Program; admission to the Jeffrey S. Raikes School of Computer Science and Management; and CSCE/RAIK 284H; parallel BSAD/RAIK 382H. *Sixth course in the Jeffrey S. Raikes School of Computer Science and Management core.*

Application of established numerical analysis techniques to selected business and finance problems, finite difference applied to standard options or stochastic processes in modeling financial markets.

**390. Special Topics in Computer Science** (1-3 cr, max 6) Prereq: Permission. *CSCE 390 will not count towards a major or minor in computer science and computer engineering.*

Aspects of computers and computing for non-computer science and computer engineering majors and/or minors. Topics vary.

**396. Special Topics in Computer Science** (1-3 cr, max 6) Prereq: Permission.

Aspects of computers and computing for computer science and computer engineering majors and minors. Topics vary.

**399H. Honors Thesis** (3 cr) Prereq: Open to students in the honors program and to candidates for degrees with distinction, with high distinction, and with highest distinction.

**[IS] 401H. Honors: RAIK Design Studio III** (RAIK, BSAD 401H) (3 cr) Lec 3, lab. Prereq: Good standing in the University Honors Program by invitation; admission to the Jeffrey S. Raikes School of Computer Science and Management; and BSAD/CSCE/RAIK 302H. *Third semester in the Jeffrey S. Raikes School of Computer Science and Management design studio sequence.*

For course description, see RAIK 401H.

**(ACE 10) [IS] 402H. Honors: RAIK Design Studio IV** (RAIK, BSAD 402H) (3 cr) Lec 3, lab. Prereq: Good standing in the University Honors Program or by invitation; admission to the Jeffrey S. Raikes School of Computer Science and Management; and BSAD/CSCE/RAIK 401H. *Fourth semester in the Jeffrey S. Raikes School of Computer Science and Management design studio sequence.*

For course description, see RAIK 402H.

**410/810. Information Retrieval Systems** (3 cr) Lec 3. Prereq: CSCE 235, 310, or permission.

Outline of the general information retrieval problem, functional overview of information retrieval. Deterministic models of information retrieval systems; conventional Boolean, fuzzy set theory, p-norm, and vector space models. Probabilistic models. Text analysis and automatic indexing. Automatic query formulation. System-user adaptation and learning mechanisms. Intelligent information retrieval. Retrieval evaluation. Review of new theories and future directions. Practical experience with a working experimental information retrieval system.

**413/813. Database Systems** (3 cr) Lec 3. Prereq: CSCE 310. *CSCE 413/813 involves practical experience with a working database system.*

Data and storage models for database systems; entity/relationship, relational, and constraint models; relational databases; relational algebra and calculus; structured query language; logical database design: normalization, integrity; distributed data storage; concurrency; security issues. Spatial databases and geographic information systems.

**421/821. Foundations of Constraint Processing** (3 cr) Lec 3. Prereq: CSCE 310 and 476/876.

Constraint processing for articulating and solving industrial problems such as design, scheduling, and resource allocation. The foundations of constraint satisfaction, its basic mechanisms (e.g., search, backtracking, and consistency-checking algorithms), and constraint programming languages. New directions in the field, such as strategies for decomposition and for symmetry identification.

**[IS] 423/823. Design and Analysis of Algorithms** (3 cr) Prereq: CSCE 310.

Mathematical preliminaries. Strategies for algorithm design, including divide-and-conquer, greedy, dynamic programming and backtracking. Mathematical analysis of algorithms. Introduction to NP-Completeness theory, including the classes P and NP, polynomial transformations and NP-complete problems.

**424/824. Computational Complexity Theory** (3 cr) Lec 3. Prereq: CSCE 235 and 310.

Turing machine model of computation: deterministic, nondeterministic, alternating, probabilistic. Complexity classes: Time and space bounded, deterministic, nondeterministic, probabilistic. Reductions and completeness. Complexity of counting problems. Non-uniformity. Lower bounds. Interactive proofs.

**425/825. Compiler Construction** (3 cr) Lec 3. Prereq: CSCE 310. Review of program language structures, translation, loading, execution, and storage allocation. Compilation of simple expressions and statements. Organization of a compiler including compile-time and run-time symbol tables, lexical scan, syntax scan, object code generation, error diagnostics, object code optimization techniques, and overall design.

**428/828. Automata, Computation, and Formal Languages** (3 cr) Lec 3. Prereq: CSCE 310.

Introduction to the classical theory of computer science. Finite state automata and regular languages, minimization of

automata. Context free languages and pushdown automata, Turing machines and other models of computation, undecidable problems, introduction to computational complexity.

**430/830. Computer Architecture** (3 cr) Lec 3. Prereq: CSCE 230 and 310; parallel STAT/MATH 380 or ELEC 305. *Credit in CSCE 830 will not count towards a graduate degree in computer science.* Architecture of single-processor (Von Neumann or SISD) computer systems. Evolution, design, implementation, and evaluation of state-of-the-art systems. Memory Systems, including interleaving, hierarchies, virtual memory and cache implementations; Communications and I/O, including bus architectures, arbitration, I/O processors and DMA channels; and Central Processor Architectures, including RISC and Stack machines, high-speed arithmetic, fetch/execute overlap, and parallelism in a single-processor system.

**432/832. High-Performance Processor Architectures** (3 cr) Lec 3. Prereq: CSCE 430; MATH 314; MATH/STAT 380 or ELEC 410. *CSCE 432 assumes knowledge of computer architecture, pipelining, memory hierarchy, instruction level parallelism, and compiler principles.*

High performance computing at the processor level. The underlying principles and micro-architectures of contemporary high-performance processors and systems. State-of-the-art architectural approaches to exploiting instruction level parallelism for performance enhancements. Case studies of actual systems highlight real-world trade-offs and theories.

**434/834. VLSI Design** (3 cr) Prereq: CSCE 335 or permission. Introduction to VLSI design using metal-oxide semiconductor (MOS) devices primarily aimed at computer science majors with little or no background in the physics or circuitry of such devices. Includes design of nMOS and CMOS logic, data-path, control unit, and highly concurrent systems as well as topics in design automation.

**435/835. Cluster and Grid Computing** (3 cr) Lec 3. Prereq: CSCE 310 or equivalent programming experience. *CSCE 435/835 is designed for CSCE and non-CSCE students who have an interest in building or programming clusters to enhance their computationally-intense research.*

Build and program clusters. Cluster construction, cluster administration, cluster programming, and grid computing.

**437/837. File and Storage Systems** (3 cr) Lec 3. Prereq: CSCE 351 or 451/851; CSCE 430/830. *CSCE 437/837 requires the designing and implementation of a real-life file and storage system.*

System-level and device-level topics in the design, implementation, and use of file and storage systems. Components and organization of storage systems, disk drive hardware and firmware, multi-disk systems, RAID, local distributed and P2P file systems, and low-power designs.

**441/841. Approximation of Functions** (MATH 441/841) (3 cr) Lec 3. Prereq: A programming language, MATH 221 and 314. Polynomial interpolation, uniform approximation, orthogonal polynomials, least-first-power approximation, polynomial and spline interpolation, approximation and interpolation by rational functions.

**447/847. Numerical Analysis II** (MATH 447/847) (3 cr) Lec 3. Prereq: CSCE 340, MATH 221 and 314. Numerical matrix methods and numerical solutions of ordinary differential equations.

**451/851. Operating Systems Principles** (3 cr) Lec 3. Prereq: CSCE 230 and 310. *Credit will not count towards a graduate degree in computer science and computer engineering.*

Organization and structure of operating systems. Control, communication, and synchronization of concurrent processes. Processor and job scheduling. Memory organization and management including paging, segmentation, and virtual memory. Resource management. Deadlock avoidance, detection, recovery. File system concepts and structure. Protection and security. Substantial programming.

**455/855. Distributed Operating Systems** (3 cr) Lec 3. Prereq: CSCE 451/851. *CSCE 455/855 requires a substantial programming project in distributed systems.*

Organization and structure of distributed operating systems. Control, communication and synchronization of concurrent processes in the context of distributed systems. Processor allocation and scheduling. Deadlock avoidance, detection, recovery in distributed systems. Fault tolerance. Distributed file system concepts and structure.

**456/856. Parallel Programming** (3 cr) Lec 3. Prereq: CSCE 310 or equivalent programming experience.

Introduction to the fundamentals of parallel computation and applied algorithm design. Methods and models of modern parallel computation; general techniques for designing efficient parallel algorithms for distributed and shared memory multi-processor machines; principles and practice in programming an existing parallel machine.

**457/857. System Administration** (3 cr) Lec 3. Prereq: CSCE 310 or equivalent programming experience.

Introduction to basic concepts of system administration. Operating systems and networking overview. User and resource management. Networking, systems and Internet related security. System services and common applications, Web services, database services, and mail servers. Basic scripting in shell, *Perl*<sup>®</sup>, and *Expect*<sup>®</sup> Systems administration on UNIX<sup>®</sup> platform.

**462/862. Communication Networks** (3 cr) Lec 3. Prereq: CSCE 230 and 310; STAT/MATH 380 or STAT 880.

Introduction to the architecture of communication networks and the rudiments of performance modeling. Circuit switching, packet switching, hybrid switching, protocols, local and metro area networks, wide area networks and the Internet, elements of performance modeling, and network programming. Network security, asynchronous transfer mode (ATM), optical, wireless, cellular, and satellite networks, and their performance studies.

**464/864. Internet Systems and Programming** (3 cr) Lec 3.

Prereq: CSCE 310.

Paradigms, systems, and languages for Internet applications. Client-side and server-side programming, object-based and event-based distributed programming, and multi-tier applications. Coverage of specific technologies varies.

**467/867. Software Quality** (3 cr) Lec 3. Prereq: CSCE 310 or permission.

Initial and ongoing software analysis, including metrics, requirements, correctness, performance, testing and validation. Frameworks and methods for software quality. Benchmarks and testing, processes for quality assurance, performance and quality models, software quality tools, testable designs and automated testing.

**470/870. Computer Graphics** (3 cr) Lec 3. Prereq: CSCE 310 and MATH 314/814.

Display and recording devices; incremental plotters; point, vector, and character generation; grey scale displays, digitizers and scanners, digital image storage; interactive and passive graphics; pattern recognition; data structures and graphics software; the mathematics of three dimensions; homogeneous coordinates; projections and the hidden-line problem.

**471/871. Introduction to Bioinformatics** (3 cr) Lec 3. Prereq: CSCE 310; STAT/MATH 380 or STAT 880.

Fundamentals and trends in bioinformatics. Scoring matrices and pairwise sequence alignments via dynamic programming, BLAST, and other heuristics. Multiple sequence alignments. Applications of machine learning methods such as hidden Markov models and support vector machines to biological problems such as family modeling and phylogeny.

**472/872. Digital Image Processing** (3 cr) Lec 3. Prereq: CSCE 156 or permission.

Digital imaging systems, digital image processing, and low-level computer vision. Data structures, algorithms, and system analysis and modeling. Digital image formation and presentation, image statistics and descriptions, operations and transforms, and system simulation. Applications include system design, restoration and enhancement, reconstruction and geometric manipulation, compression, and low-level analysis for computer vision.

**473/873. Computer Vision** (3 cr) Lec 3. Prereq: CSCE 156 or permission.

High-level processing for image understanding and high-level vision. Data structures, algorithms, and modeling. Low-level representation, basic pattern-recognition and image-analysis techniques, segmentation, color, texture and motion analysis, and representation of 2-D and 3-D shape. Applications for content-based image retrieval, digital libraries, and interpretation of satellite imagery.

**474/874. Introduction to Data Mining** (3 cr) Lec 3. Prereq: CSCE 310; STAT/MATH 380 or STAT 880. CSCE 474/874 requires the completion of a project involving the application of data mining techniques to real-world problems.

Data mining and knowledge discovery methods and their

application to real-world problems. Algorithmic and systems issues. Statistical foundations, association discovery, classification, prediction, clustering, spatial data mining and advanced techniques.

**[IS] 475/875. Multiagent Systems** (3 cr) Lec 3. Prereq: CSCE 310. Distributed problem solving and planning, search algorithms for agents, distributed rational decision making, learning multiagent systems, computational organization theory, formal methods in Distributed Artificial Intelligence, multiagent negotiations, emergent behaviors (such as ants and worms), and Robocup technologies and real-time coalition formation.

**[IS] 476/876. Introduction to Artificial Intelligence** (3 cr) Lec 3. Prereq: CSCE 310.

Introduction to basic principles, techniques, and tools now being used in the area of machine intelligence. Languages for AI programming introduced with emphasis on LISP. Lecture topics include problem solving, search, game playing, knowledge representation, expert systems, and applications.

**477/877. Cryptography and Computer Security** (3 cr) Lec 3.

Prereq: CSCE 310, MATH 314/814 or equivalent.

Introductory course on cryptography and computer security. Topics: classical cryptography (substitution, Vigenere, Hill and permutation ciphers, and the one-time pad); block ciphers and stream ciphers; The Data Encryption Standard; Public-key cryptography, including RSA and El-Gamal systems; Signature schemes, including the Digital Signature Standard; Key exchange, key management and identification protocols.

**[IS] 478/878. Introduction to Machine Learning** (3 cr) Lec 3.

Prereq: CSCE 310, STAT 380 recommended.

Introduction to the fundamentals and current trends in machine learning. Possible applications for game playing, text categorization, speech recognition, automatic system control, date mining, computational biology, and robotics. Theoretical and empirical analyses of decision trees, artificial neural networks, Bayesian classifiers, genetic algorithms, instance-based classifiers and reinforcement learning.

**479/879. Introduction to Neural Networks** (3 cr) Lec 3.

Introduction to the concepts, design and application of connection-based computing begins by simulating neural networks, focusing on competing alternative network architectures, including sparse distributed memories, Hopfield networks, and the multilayered feed-forward systems. Construction and improvement of algorithms used for training of neural networks addressed to reduce training time and improve generalization. Algorithms for training and synthesizing effective networks implemented in high level language programs running on conventional computers. Emphasis on methods for synthesizing and simplifying network architectures for improved generalization. Application areas include: pattern recognition, computer vision, robotics medical diagnosis, weather and economic forecasting.

**486. Computer Science Professional Development** (1 cr) Lec 1.

Prereq: CSCE 361. *CSCE 486 must be taken exactly one semester before CSCE 487.*

Preparation for the senior design project. Professional practice through familiarity with current tools, resources, and technologies. Professional standards, practices and ethics, and the oral and written report styles used specifically in the field of computer science.

(ACE 10) **[IS] 487. Computer Science Design Project** (3 cr) Lec 3. Prereq: Senior standing; CSCE 361 and 486. *CSCE 487 uses the team approach to undertake a substantial, broadly-defined project requiring aggregation of the technical and analytical skills learned in other CSCE courses.*

**488. Computer Engineering Professional Development** (2 cr)

Lec 2. Prereq: JGEN 200; ELEC 362 and 476, or parallel; CSCE 430/830 or parallel; formal admission to College of Engineering. *CSCE 488 is a preparation course for the computer engineering Senior Design Project (CSCE 489). CSCE 488 and 489 are a sequence of courses that are to be taken in consecutive terms.*

Professional practice through familiarity and practice with current tools, resources, and technologies; professional standards, practices, and ethics; and oral and written report styles used in the computer engineering field.

(ACE 10) **[IS] 489. Computer Engineering Senior Design Project** (3 cr) Lec 3. Prereq: ELEC 362 and 475/875; CSCE 430/830 and 488; admission to the College of Engineering. *CSCE 488 must be taken first and in the term prior to registering for CSCE 489. Permission must be obtained to take CSCE 488 and 489 out of sequence. CSCE 489 uses a team approach.*

Undertake a substantial design project requiring aggregation of the technical and analytical skills learned in other CSCE courses.

**490. Special Topics in Computer Science** (1-3 cr, max 6) Prereq: Permission. *CSCE 490 will not count towards a major or minor in computer science and computer engineering.*

Aspects of computers and computing for non-computer science and computer engineering majors and/or minors. Topics vary.

**491. Internship in Computing Practice** (1-3 cr, max 6) Fld.

Prereq: CSCE 319 and permission. *CSCE 491 requires a detailed project proposal and final report.*

Experiential learning in conjunction with an approved industrial or government agency under the joint supervision of an outside sponsor and a faculty adviser.

**496/896. Special Topics in Computer Science** (1-3 cr per sem, max 6) Lec. Prereq: Senior or graduate standing.

Aspects of computers and computing not covered elsewhere in the curriculum presented as the need arises.

**496H. Honors: Special Topics in Computer Science** (3 cr)

Prereq: Good standing in the University Honors Program or by invitation; specific course prerequisites will vary depending on the topic.

**498/898. Computer Problems** (3 cr) Prereq: Senior or graduate standing.

Independent project executed under the guidance of a member of the faculty of the Department of Computer Science. Solution and documentation of a computer problem demanding a thorough knowledge of either the numerical or nonnumerical aspects of computer science.

**897. Masters Project** (1-6 cr) Prereq: Permission of the adviser.

**899. Masters Thesis** (6-10 cr)

Refer to the Graduate Bulletin for 900-level courses.

## Construction Management–An Academic Unit of the Durham School

**Unit Director:** Jonathan Shi

**Associate Professors:** Berryman, Fischer, Harmon, Jensen, Stentz, Wentz

**Assistant Professor:** Shen

### Construction Degrees

The Charles W. Durham School of Architectural Engineering and Construction offers the student a full range of professional opportunities in the construction industry from construction engineering to construction management. These two undergraduate degree options are described in further detail below. Additional information is available at <http://www.durhamschool.unl.edu/>.

### Construction Management

**Program Coordinator:** Charles Berryman

Construction is the largest and most diversified industry in the country, accounting for approximately 10 percent of the gross national product. The key professional in this vast enterprise is the “constructor”, a term given to the leaders and managers in the construction industry, having the responsibility for planning, scheduling, and building the projects designed by architects and engineers. These highly specialized efforts are

indispensable in meeting the country's growing need for new structures and environmental control projects.

Construction firms vary in size from large corporations to small proprietorships and partnerships. These are often classified according to the kind of construction work they do: general contractors, heavy and highway contractors, specialty contractors including mechanical and electrical, and residential builders and developers. Many firms engage in more than one category of work. Some larger companies incorporate the architectural and engineering design functions as part of their activity as a design/build firm. Collectively, Constructors build our entire man-made environment-buildings for housing, commerce, industry, and government; transportation services including highways, railroads, waterways, and airports; municipal service facilities and utilities, such as power plants and energy distribution systems; military bases and space center complexes. Thus the construction management field is broad and challenging, requiring a unique educational background for its professional practitioners.

Educational standards and criteria for construction education are established by the American Council for Construction Education (ACCE) which is the accrediting agency for construction education programs at all levels. The program at the University of Nebraska-Lincoln, having met these standards and criteria, is currently fully accredited by ACCE.

Although the range of construction activities appears wide and diverse, the general educational requirements for construction management are universal regardless of a particular firm's area of specialization. Since construction is primarily a business enterprise, the graduate must have a sound background in business management and administration areas, as well as an understanding of the fundamentals of architecture and engineering as they relate to the project design itself as well as to the actual construction process in the field. Professional expertise lies in the fields of construction science, methods, and management. A working knowledge of structural design, mechanical and electrical systems, soil mass behavior, and construction equipment is also essential.

The construction management curriculum embraces a course of study in specifications, contractual agreements, labor relations, personnel management, materials, methods, and work analysis techniques. Technical and humanity electives provide for a well-rounded education that leads to a challenging career in the construction industry.

Students interested in obtaining a degree in civil engineering and construction management are advised to enroll in civil engineering. Because some civil engineering courses require prerequisites beyond those required for similar construction management courses, students should obtain a civil engineering degree first. While in civil engineering, they will be advised by an adviser familiar with the construction management curriculum. After completing requirements for the civil engineering degree, the student will move to the construction management department to complete the requirements for the second degree in construction management.

## Requirements for the Degree of Bachelor of Science in Construction Management (Lincoln campus)

Construction management students must pass all courses offered within the College of Engineering and all math and science courses with a grade of "C" or higher. Students must complete 28 semester hours or be classified as a sophomore before applying for admission to the construction management degree program. In addition, all seniors must take a program exit examination along with the American Institute of Constructors' Level I examination before graduation.

First Semester	Credits
CNST 131 Intro to Construction Industry.....	1
ENGL 151 English Composition.....	3
ENGR 010 Freshman Engineering Seminar.....	0
GEOL 101 Physical Geology.....	4
MATH 106 Calculus I.....	5
	13

Second Semester	Credits
CNST 112 Construction Communications .....	3
JGEN 200 Technical Communications I .....	3
STAT 218 Intro to Statistics .....	3
ACE Elective <sup>25</sup> .....	3
Science Elective with Lab <sup>26</sup> .....	4
	16

Third Semester	Credits
CIVE 221 Geometric Control Systems .....	3
CIVE 252 Material Testing Lab.....	1
CNST 241 Construction Equipment & Methods I .....	3
CNST 251 Construction Materials.....	3
ECON 212 Principles of Microeconomics.....	3
ENGM 220 Statics.....	3
ENGR 020 Sophomore Engineering Seminar.....	0
	16

Fourth Semester	Credits
CNST 242 Construction Equipment & Methods II .....	3
COMM 286 Business & Professional Communication.....	3
ECON 211 Principles of Macroeconomics .....	3
ENGM 324 Strength of Materials.....	3
ACE Elective <sup>25</sup> .....	3
	15

Fifth Semester	Credits
ACCT 306 Accounting.....	4
ARCH 331 Architectural Structures I .....	3
CNST 305 Physical Environmental Systems I .....	3
CNST 378 Construction Estimating I .....	3
MNGT 360 Managing Behavior in Organizations.....	3
	16

Sixth Semester	Credits
ARCH 332 Architectural Structures II .....	3
CNST 306 Physical Environmental Systems II .....	3
CNST 379 Construction Estimating II .....	3
FINA 361 Financial Management or IMSE 206 Engineering Economics .....	3
Technical Elective .....	3
	15

Seventh Semester	Credits
BLAW 371 Legal Environment .....	3
CNST 476 Project Budgets & Controls .....	3
CNST 480 Productivity & Human Factors in Construction ..	3
CNST 485 Construction Project Scheduling & Control ..	3
Technical Electives .....	3
	15

<sup>25</sup> Choose one course each from ACE outcomes 5, 7, and 9 elective courses shown on page 383.

<sup>26</sup> CHEM 109 or 111 or 113; or PHYS 151 and 153.

	Credits
CNST 420 Professional Practice .....	3
CNST 489 Senior Construction Project .....	3
Construction Management Elective .....	3
ACE Elective <sup>25</sup> .....	3
Technical Elective .....	3
	15

Total Credit Hours Required.....121

## Courses of Instruction (CNST)

**112. Construction Communications** (3 cr) Lec 3, lab 1. Development of construction industry communication skills including the ability to read contract documents. Complete comprehension of working drawings, technical terminology including graphic symbols and abbreviations. Fundamentals of drafting principles, sketching, and dimensioning techniques.

**131. Introduction to the Construction Industry** (1 cr) Lec 3. Introduction to basic management principles and practices used in the control of manpower, materials, machinery and money in the construction of the built environment.

**241. Construction Methods and Equipment I** (CONE 241) (3 cr) Lec. Prereq: CIVE 334 and ISMG 2060 (UNO). For course description, see CONE 241.

[IS] **242. Construction Equipment and Methods II** (3 cr) Lec 3. Prereq: CNST 241 and 251. *CNST 242 is a continuation of CNST 241.*

The structure from grade to topping out. Functions and applications of material handling equipment from simple pulleys to large cranes. Methods of constructing concrete formwork in a variety of applications. Assembly and erection of steel, wood, precast concrete, and masonry structural elements. Material finishing methods and equipment.

**251. Construction Materials and Specifications** (UNO-CNST 2510) (3 cr) (UNL, UNO) Lec 3, rct 1. Prereq: CNST 112 or (UNO) CNST 1120; CNST 131 or (UNO) CNST 1310; CIVE 252 or parallel; grade of 'C' or better in the science elective. Introduction to construction materials. Physical, mechanical, and aesthetic properties of soils, concrete, masonry, metals, plastics, and other materials as they relate to in-service conditions and acceptability either individually or in combination with other materials. Proper methods of specifying to achieve design and construction goals, construction safety and inspection, and to meet zoning codes and environmental requirements.

**305. Building Environmental Technical Systems I** (ARCH 333) (3 cr) Lec 3. Prereq: MATH 106 and science elective. For course description, see ARCH 333.

**306. Physical Environmental Systems II** (UNO-CNST 3060) (3 cr) (UNL, UNO) Lec 3, rct 1. Prereq: Grade of 'C' or better in MATH 106/108H/(UNO) MATH 1950 and in the science elective.

Fundamentals of electric power generation and distribution. Service and circuits in buildings, electrical equipment and systems in buildings, lighting principles and applications, and fire protection systems. Review of National Electric Code.

**331. Architectural Structures I** (ARCH 331/(UNO) 3310) (3 cr) Stu. Prereq: ENGM 220/(UNO) 2200 and ENGM 324/(UNO) EMEC 3240. For course description, see ARCH 331.

**332. Architectural Structures II** (ARCH 332/(UNO) 3320) (3 cr) Stu. Prereq: ARCH/CNST 331/(UNO) CNST 3310. For course description, see ARCH 332.

**378. Construction Estimating I** (CONE 378) (3 cr) (UNL, UNO) Lec 3. Prereq: CNST 242 or (UNO) CONE 2420. For course description, see CONE 378.

**379. Construction Estimating II** (3 cr) Lec 2, lab 3. Prereq: CNST 378. Continuation of CNST 378 with emphasis on implementing basic elements of estimating, including: quantity survey, price extension, and bidding. Advanced computer applications of estimating to various construction projects.

**405. Mechanical Estimating** (3 cr) Lec 2, lab 3. Prereq: CNST 305, 306 and 379.

Application of estimating principles, quantity take-off, bidding strategies, and computerization to the specialty field of mechanical construction.

**406. Electrical Estimating** (3 cr) Lec, lab. Prereq: CNST 306 and 379.

Application of estimating principles, quantity take-off, bidding strategies, and computerization to the specialty field of electrical construction.

**415/815. Mechanical/Electrical Project Management** (3 cr) Lec, lab. Prereq: Senior standing; CNST 305 and 306. CNST \*405 recommended.

Fundamentals of project management within the mechanical and electrical contracting industry. Codes, contract documents, productivity, coordination, project control and administration, scheduling, safety, and project closeout, from a specialty contracting perspective.

(ACE 8) [IS] **420/820. Professional Practice and Ethics** (3 cr) Prereq: Senior standing.

Orientation to professional practice through the designers' and the contractors' relationships to society, specific clients, their professions, and other collaborators in environmental design and construction fields. Ethics, professional communication and responsibility, professional organization, office management, construction management, professional registration, and owner-designer-contractor relationships.

**434/834. Professional Trends in Design/Build** (3 cr) Prereq for CNST 434: Senior standing, construction major, and permission. Prereq for CNST 834: Master of engineering in construction or related discipline, and permission. *CNST 434 is also open to non-construction majors who have senior standing and obtain permission.*

The organizational, managerial, ethical and legal principles in the delivery of design/build as a construction project delivery system.

**441/841. Industrialized Systems Building** (3 cr) Lec 3. Prereq: Senior or graduate standing.

Historical background of industrialized systems building; its economic and social relevance in modern society; and its influence on the traditional role of the contractor within the construction industry. Changes that industrialized systems building will impose on the contractor's approach to finance, management, and construction methods and equipment.

**476. Project Budgets and Controls** (CONE 476) (3 cr) Lec 3. Prereq: CONE/CNST 378 and ISMG 2060 (UNO). ACCT 2020 (UNO) may be substituted toward degree requirements for CONE 476. Credit toward the degree may be earned in only one of: ACCT 2020 (UNO) and CONE 476.

For course description, see CONE 476.

**480/880. Productivity and Human Factors in Construction** (UNO-CNST 4800/8806) (3 cr) (UNL, UNO) Lec 3, rct 1. Prereq: Senior standing; CNST 242 or (UNO) CNST 2420; grade of 'C' or better in MNGT 360/360H or (UNO) MNGT 3940.

Motivation and productivity improvement methods in the management of construction workers in their typical job environments. Methods to improve working environments in the field and in the office. Procedures and mechanisms to implement human behavior concepts for enhanced productivity and safety.

**482/882. Heavy and/or Civil Construction** (CONE 482/882) (3 cr) Lec. Prereq: Senior or Graduate standing in ARCH, AREN, CIVE, CNST, or CONE.

Application of management principles to the construction of heavy and/or civil projects. History, theory, and methods of planning and constructing heavy and/or civil projects. Emerging equipment and new equipment capabilities. Economical use of equipment and managing costs associated with production.

**483. Intent and Application of the International Building Code** (3 cr) Lec 3. Prereq: CNST 112, 131, and 251.

How to research, interpret, and apply building code requirements to the design and construction of both new and renovated structures.

**485/885. Construction Planning, Scheduling, and Controls** (CONE 485) (3 cr) Lec 3. Prereq: CONE/CNST 378 and AE 2250 (UNO).

For course description, see CONE 485.

**486/886. Construction Management Systems** (UNO-CNST 4860/8866) (3 cr) (UNL, UNO) Lec 3, rct 1. Prereq: Grade of 'C' or better in STAT 218 or (UNO) MATH 1530, or equivalent. Application of selected topics in systems analysis (operations research) to construction management: competition strategy; linear programming; queuing; transportation; time-cost trade-off; learning curves; and other models. Computer applications.

**487. Intent and Application of International Building Code** (3 cr) Lec. Prereq: CNST 112, 131, and 251.

Research, interpret and apply building code requirements to the design and construction of new and renovated structures.

**488. Advanced Construction Management Techniques** (3 cr) Lec, lab. Prereq: Junior standing and permission of instructor. Application of project management strategies in estimating, scheduling, project cash flow analysis, planning, marketing, land development, and project presentation in the residential setting. How construction companies analyze, bid, and market their construction plans to owners as part of the preconstruction and bid process.

(ACE 10) [IS] **489. Senior Construction Project** (3 cr) Lec 1, lab 6. Prereq: Senior standing; CNST 379, 430, 480 and 485; or permission of program director.

Execution of a construction project involving conceptual design and location, estimating, bidding, site layout, construction organization, planning and scheduling, cost control, records management, and project completion and documentation.

**498/898. Special Topics in Construction Management** (1-6 cr, max 6) Lec. Prereq: For CNST 498: Permission. For CNST 898: Masters of engineering in construction or related discipline. A signed student-instructor learning contract is required.

Individual or small group investigation of topics in construction management. Topics vary.

## Construction Engineering

**Program Coordinator:** George Morcos

The construction engineering major integrates engineering, construction, and management courses. This program is designed for persons fulfilling the construction industry's need for licensed professional engineers. It resembles the construction management program but provides a greater emphasis on engineering, scientific, and technical courses so that requirements for licensure are met. The courses in construction engineering focus on the application of engineering principles to solve real world construction problems.

Under the stimulus of increasing demand for its services globally, the construction industry has expanded its technological capabilities pertaining to physical and informational systems. This demand gives the construction engineering graduate an unprecedented number of opportunities for employment and for pursuing an advanced degree.

Construction engineers participate in the preparation of engineering and architectural plans and specifications which they translate into finished projects, such as buildings, bridges, highways, power plants, or other constructed facilities. These projects involve thousands of details shared by a team of owners, architects, engineers, general contractors, specialty contractors, manufacturers, material suppliers, equipment distributors, regulatory bodies and agencies, labor resources, and numerous others. The constructor assumes responsibility for delivery of the completed project at a specified time and cost and also accepts associated legal, financial, and management obligations. Because of the broad scope of the construction engineer's project responsibility, he/she must assure the project's ability to be constructed as well as its ability to be operated and sustained.

The construction engineering student is required to enroll into a predetermined set of courses specifically designed for general construction education. Each student selects, with the approval of his/her adviser, a set of approved electives. The program outlined below leads to the bachelor of science degree in construction engineering. In addition to the required classroom work, each new and transfer student must complete a minimum of 1,000 hours of professional practice during their enrollment in the program. These hours are monitored by the student's assigned program adviser.

## Requirements for the Degree of Bachelor of Science in Construction Engineering (Lincoln campus)

First Semester	Credits
CHEM 109 General Chemistry I.....	4
CNST 103 Intro to Construction Engineering .....	1
CONE 496 Professional Practice .....	0
CSCE 150E Intro to Computer Programming for Scientists & Engineers .....	3
JGEN 200 Technical Communication I.....	3
MATH 106 Analytic Geometry & Calculus I.....	5
	16

Second Semester	Credits
CONE 496 Professional Practice .....	0
MATH 107 Analytic Geometry & Calculus II .....	5
MECH 130 Intro to CAD .....	2
PHYS 211 General Physics I.....	1
PHYS 221 General Physics Lab .....	4
ACE Elective <sup>27</sup> .....	3
	15

Third Semester	Credits
CIVE 221 Geometric Control Systems .....	3
COMM 286 Business & Professional Communication ..	3
CONE 496 Professional Practice .....	0
ENGM 223 Engineering Statics .....	3
MATH 208 Analytic Geometry & Calculus III .....	4
PHYS 212 General Physics II.....	4
	17

Fourth Semester	Credits
CONE 496 Professional Practice .....	0
ENGM 325 Mechanics of Elastic Bodies.....	3
ENGM 373 Engineering Dynamics.....	3
IMSE 206 Engineering Economics I .....	3
MATH 221 Differential Equations.....	3
ACE Elective <sup>27</sup> .....	3
	15

Fifth Semester	Credits
CIVE 310 Fluid Mechanics.....	3
CIVE 341 Intro to Structural Engineering.....	4
CONE 241 Construction Methods & Equipment .....	3
CONE 378 Construction Estimating I.....	3
CONE 496 Professional Practice .....	0
STAT 380 or IMSE 321 Probability & Statistics .....	3
	16

Sixth Semester	Credits
CIVE 334 Intro to Geotechnical Engineering.....	4
CIVE 378 Material of Construction.....	3
CONE 496 Professional Practice .....	0
ECON 212 Principles of Microeconomics.....	3
ELEC 211 Elements of Electrical Engineering .....	3
ACE Elective <sup>27</sup> .....	3
	16

<sup>27</sup> Choose one course each from ACE outcomes 5, 7, 8, and 9 elective courses shown on page 383.

Seventh Semester	Credits
CIVE 440 Reinforced Concrete Design I.....	3
CONE 414 Accident Prevention in Construction .....	3
CONE 476 Project Budgets & Controls .....	3
CONE 485 Construction Project Planning & Control ..	3
CONE 496 Professional Practice .....	0
Technical Design Elective.....	3
ACE Elective <sup>27</sup> .....	3
	18
Eighth Semester	Credits
BLAW 371 Legal Environment .....	3
CIVE 441 Steel Design I.....	3
CNST 420 Professional Practice .....	3
CONE 489 Construction Capstone.....	3
CONE 496 Professional Practice .....	0
Technical Design Elective.....	3
	18
<b>Total Credit Hours Required</b>	<b>131</b>

## Courses of Instruction (CONE)

**096. Professional Practice** (0 cr) (UNL, UNO) Fld. Prereq: Senior standing. *CONE 096 is required of CONE majors prior to graduation. The work experience must be pre-approved by the faculty adviser in the CONE department.*

Work experience in a construction related work area.

**103. Introduction to Construction Engineering** (1 cr) (UNL, UNO) Lec 1.

Introduction to the organization and terminology of construction engineering. Overview of technical and management skills required to succeed in the construction engineering profession.

**221/2210. Geometric Control Systems** (CIVE 221) (3 cr) (UNL, UNO) Lec 2, lab 3. Prereq: MATH 106. For course description, see CIVE 221.

**241. Construction Methods and Equipment I** (CNST 241) (3 cr) Lec. Prereq: CIVE 334 and ISMG 2060 (UNO).

Characteristics, capabilities, and selection of equipment and methods used in the building construction industry. Estimating job production, equipment production rates, machine operating costs, earth-moving equipment, hoisting equipment, operations analysis, and use of various other construction and methods and equipment.

**378. Construction Estimating** (CNST 378/(UNO) CONE 3780) (3 cr) (UNL, UNO) Lec 3. Prereq: CNST 242 or (UNO) CONE 2420.

Preparation of detailed cost estimates based on contract documents. Identify and analyze cost components to perform a reliable quantity take-off. Recap components in their common trade areas for labor, material, and equipment pricing. Introduction to subcontractor bids and assembly of bid proposal.

**414. Accident Prevention in Construction** (3 cr) (UNL, UNO) Lec 3. Prereq: Senior standing; CONE 211 and 319.

Safety practices in the construction industry and the national safety and health standards of the Occupational Safety and Health Administration (OSHA). The theory of accidents; personal attitudes; statistics and environment; accident occurrence; prevention and inspection in connection with the construction of buildings, highways, and associated heavy facilities. Nationally accepted safety codes and their relationship to accept practices in the industry.

**416. Wood and/or Contemporary Materials Design** (3 cr) Lec 3. Prereq: CIVE 341; parallel CIVE 440 and 441.

Design of structural timber, beams, columns, and connections. Introduction to applicable design philosophies and codes. Overview of materials design. Masonry, aluminum, and contemporary materials such as plastics and fiber reinforced systems and composite material groups. Design considerations, cost and constructability analysis.

**417. Formwork Systems** (3 cr) Lec 3. Prereq: CIVE 341; parallel CIVE 441 and CONE 416.

Design of formwork, concrete and lateral loads, wall forms, slab forms, beam forms, and column forms. Shores and scaffolding. Shoring and reshoring for multistory structures and elevated formwork. Custom and manufactured forming systems, plate and shell forms, slipforms, and flying forms.

**450/850. Sustainable Construction** (3 cr) Lec 3. Prereq: Senior standing. Sustainable construction and its application to the green building industry. LEED certification process, sustainable building site management, efficient waste water applications, optimizing energy performance, indoor environmental issues, performance measurement and/or verification, recycled content and certified renewable materials.

**466/866. Heavy and/or Civil Estimating** (3 cr) (UNL, UNO) Lec 3. Prereq: CONE 241, 378, 485.

Estimating techniques and strategies for heavy and/or civil construction. Unit pricing, heavy and civil constructions takeoffs and estimating, equipment analysis, overhead cost and allocations, estimating software and government contracts.

**476. Project Budgets and Controls** (CNST 476) (3 cr) Lec 3. Prereq: CONE/CNST 378; ISMG 2060 (UNO). *ACCT 2020 (UNO) may be substituted toward degree requirements for CONE 476. Credit toward the degree may be earned in only one of: ACCT 2020 (UNO) and CONE 476.*

The basic systems related to revenues and expenses associated with record keeping of construction contracts. Managerial accounting related to planning and control of construction projects.

**481/881. Highway and Bridge Construction** (3 cr) Lec 3. Prereq: Senior standing and CONE/CNST 241.

Methods and equipment required in the construction of roads and bridges. Methods and equipment necessary for roads and bridges. Substructure and superstructures, precast and cast-in-place segments, and standard and specialized equipment.

**482/882. Heavy and/or Civil Construction** (CONE 482/882) (3 cr) Lec. Prereq: Senior or Graduate standing in ARCH, AREN, CIVE, CNST, or CONE.

For course description, see CNST 482/882.

**483/883. Support of Excavation** (3 cr) Lec 3. Prereq: Senior standing.

The design and placement of excavation supports according to OSHA requirements and industry standards. A variety of routine to moderately complex support systems. Open excavations, sheet piling and cofferdams, soil mechanics, lateral loads, hydrology, and pumping methods.

**485. Construction Planning, Scheduling, and Controls** (CNST 485/885) (3 cr) Lec 3. Prereq: CONE/CNST 378 and AE 2250 (UNO). Planning and scheduling a construction project using the critical path methods (CPM) with computer applications. Project pre-planning, logic networks, network construction, time estimates, critical path, float time, crash programs, scheduling, and monitoring project activities.

**489. Construction Engineering Capstone** (3 cr) Lec 3. Prereq: Senior standing. *CONE 489 is to be taken in the term preceding graduating. CONE 489 embodies the cumulative CONE experience in a project format and uses teams to simulate actual construction enterprises operating in cooperative and competitive situations which replicate the construction industry.* An integrated, comprehensive project.

**498. Special Projects** (1-6 cr, max 6) (UNL, UNO) Ind. Prereq: Permission. *CONE 498 requires the completion of a final report that presents the study results in a form useful to engineering management.*

Individual research on a selected technical, structural, materials or management problem in construction.

## Department of Electrical Engineering

**Chair:** Jerry L. Hudgins

**Associate Chair:** Sohrab Asgarpoor

**Professors:** Alexander, Bahar, Balkir, Boye, Hoffman,

Hudgins, Ianno, Lu, Sayood, Soukup, Woollam

**Associate Professors:** Asgarpoor, Han, Pérez, Qiao, Schubert, Snyder, Vakilzadian, Varner

**Assistant Professors:** Franke Shubert, Gursoy,

Velipasalar

**Visiting Professor:** Patterson

**Instructor:** Russell

**Senior Lecturer:** Bauer

The mission of the Department of Electrical Engineering is to provide undergraduate- and graduate-level education in electrical engineering, perform research and other scholarly activities, and to furnish service to the state, industry, and the profession. To fulfill this mission, the department offers the degrees of bachelor of science in electrical engineering, master of science in electrical engineering, and doctor of philosophy in the College of Engineering's Unified PhD Program. We place a high priority on undergraduate and graduate education and are continually striving to improve the curriculum, content, and delivery.

Electrical engineering is primarily concerned with the production, transmission, and utilization of electrical energy and the transmission and processing of information. The curriculum is designed to provide a broad education in fundamental principles and laboratory applications and an awareness of the socioeconomic impact of technology. Technical electives are normally selected from advanced courses in electrical engineering to provide for specialization in selected areas. However, technical electives can also be selected from courses offered by other departments of the College of Engineering or from appropriate physics, chemistry, mathematics, and biological sciences courses.

Employment opportunities for electrical engineers cover a wide spectrum of activities including design, development, research, sales, and management. These activities are carried on in industrial organizations, public and private utilities, the communications and computer industry, governmental and educational institutions, and consulting engineering firms.

The objective of the undergraduate program in electrical engineering is to offer students an education which will enable them to be productive electrical engineers and to be active, contributing citizens of the nation and the world. In order to meet this objective we have set several more specific objectives. These specific objectives are:

1. Provide students with a good base understanding and skill level in mathematics, science, and basic electrical engineering which will allow them to succeed in more advanced courses and will serve them well in later years as they need to understand new technology.
2. Provide students with an understanding in adequate detail about a few specific areas of electrical engineering as a first step in career selection.
3. Provide students experience in the application of knowledge acquired in the classroom, to enable productive solutions to practical electrical engineering problems.
4. Provide students with training and experience in technical and decision-making processes, and the human interactions necessary to produce viable technological solutions.
5. Encourage students to develop a positive interest in electrical engineering of the type which leads to life-long learning and adept functioning in society.

## Requirements for the Degree of Bachelor of Science in Electrical Engineering

First Semester	Credits
ELEC 121 Intro to Electrical Engineering I.....	3
ENGR 010 Freshman Engineering Seminar.....	0
MATH 106 Analytic Geometry & Calculus I.....	5
Science Elective <sup>28</sup> .....	4
ACE Elective <sup>29</sup> .....	3
	15
Second Semester	Credits
ELEC 122 Intro to Electrical Engineering II.....	3
MATH 107 Analytic Geometry & Calculus II.....	5
PHYS 211 General Physics.....	4
Communications Elective <sup>30</sup> .....	3
	15
Third Semester	Credits
ELEC 215 Electronics & Circuits I.....	3
ELEC 235 Introductory Electrical Lab I.....	1
ENGR 020 Sophomore Engineering Seminar.....	0
MATH 208 Analytic Geometry & Calculus III.....	4
PHYS 212 General Physics II.....	4
PHYS 222 General Physics Lab II .....	1
Computer Programming Elective <sup>31</sup> .....	3
	16
Fourth Semester	Credits
ELEC 216 Electronics & Circuits II .....	3
ELEC 222 Intro to Embedded Systems .....	3
ELEC 236 Introductory Electrical Lab II.....	1
MATH 221 Differential Equations.....	3
Science Elective <sup>32</sup> .....	4
ACE Elective <sup>28</sup> .....	3
	17
Fifth Semester	Credits
ELEC 304 Signals & Systems I.....	3
ELEC 307 Electrical Engineering Lab I.....	2
ELEC 316 Electronics & Circuits III.....	3
ELEC 370 Digital Logic Design.....	3
Technical Elective <sup>32</sup> .....	3
ACE Elective <sup>28</sup> .....	3
	17
Sixth Semester	Credits
ELEC 305 Probability Theory & Intro to Random Processes .....	3
ELEC 306 Electromagnetic Field Theory .....	3
ELEC 317 Electrical Engineering Lab II .....	2
Technical Electives <sup>31</sup> .....	6
Communications Elective <sup>29</sup> .....	3
	17
Seventh Semester	Credits
ELEC 494 Electrical Engineering Senior Design I.....	2
Technical Electives <sup>31</sup> .....	9
ACE Elective <sup>28</sup> .....	3
	14
Eighth Semester	Credits
ELEC 495 Electrical Engineering Senior Design II .....	3
Technical Electives <sup>31</sup> .....	9
ACE Elective <sup>28</sup> .....	3
	15
Total Credit Hours Required for Graduation	126

- 28 Choose two of three from the following: BIOS 101 and 101L; CHEM 109 or 111 or 113; and PHYS 213.
- 29 Choose one course each from ACE outcomes 5, 6, 7, 8, and 9 elective courses shown on page 383.
- 30 Choose two of three from JGEN 200, JGEN 300, and COMM 286 so as to meet both ACE 1 and 2.
- 31 The approved computer programming elective consists of at least 3 credits from CSCE 150A, 150E, 155, 156, 251, 251K, 252A, or 310.
- 32 The department maintains an approved list of technical electives (within and outside of EE) on the department Web site.

## Courses of Instruction (ELEC)

[ES] 121. **Introduction to Electrical Engineering I** (3 cr)  
Introduction to the analysis of digital computer circuits.

[ES] 122. **Introduction to Electrical Engineering II** (3 cr) Prereq: ELEC 121; MATH 106 or equivalent. *Laboratory demonstrations and experiments included.*  
Introduction to basic electrical engineering concepts of circuits and signals. Computers used with MATLAB and MAPLE to explore electrical engineering concepts.

**198. Special Topics in Electrical Engineering I** (1-6 cr, max 6) Lec. Prereq: Permission.  
Offered as the need arises to treat electrical engineering topics for first-year students not covered in other courses.

[ES] 211. **Elements of Electrical Engineering I** (3 cr) Prereq or parallel: MATH 107 and PHYS/ASTR 131 or 211. *Not for electrical engineering majors.*

Basic circuit analysis including direct and alternating currents and operational amplifiers. Digital signals and circuits.

**215. Electronics and Circuits I** (3 cr) Prereq: Permission.  
Introduction to electrical engineering circuit theory. Kirchhoff's laws and circuit analysis theorem applied to steady state DC resistive circuits, RLC circuits. Analysis of transient and sinusoidal steady-state circuits. Steady-state power calculations for sinusoidal single-phase circuits. Modern computer methods are employed.

**216. Electronics and Circuits II** (3 cr) Lec 3. Prereq: ELEC 215; MATH 221 or parallel.  
Kirchhoff's laws and circuit analysis theorems applied to steady-state bipolar junction transistor circuits, and diode circuits. Steady-state power calculations for balanced three-phase circuits. Introduction to the fundamentals of semiconductor theory and their application to P-N junction devices. Mutual inductance. Frequency response of transistor circuits. Modern computer methods.

**222. Introduction to Embedded Systems** (3 cr) Prereq: ELEC 122 or CSCE 230.  
Basic hardware and software concepts of embedded microprocessor systems and interfacing with other hardware components. Simple circuits are designed and drivers to run these circuits are written. Design and build hardware and write drivers in assembly language.

**231. Electrical Engineering Laboratory** (1 cr I, II) Parallel: ELEC 211.  
Laboratory accompanying ELEC 211.

**235. Introductory Electrical Laboratory I** (1 cr) Lab 3. Prereq: ELEC 121 or CSCE 230/203H.

**236. Introductory Electrical Laboratory II** (1 cr) Lab 2. Prereq: ELEC 235.

**298. Special Topics in Electrical Engineering II** (1-6 cr, max 6) Lec. Prereq: Permission.

Offered as the need arises to treat electrical engineering topics for second-year students not covered in other courses.

(ACE 4) **304. Signals and Systems I** (3 cr) Prereq: ELEC 122 or CSCE 155; ELEC 216; and MATH 221.

Mathematical modeling of physical systems and signals. Representation of signals in terms of basis functions. Fourier series expansions, Fourier Transforms, Laplace and z-Transforms. Input-output relations, convolution. Transfer functions. Bode plots. Poles/zeros and s- and z-plane methods. Applications.

**305. Probability Theory and Introduction to Random Processes** (3 cr) Prereq: ELEC 304.

Random experiment model, random variables, functions of random variables, and introduction to random processes.

**306. Electromagnetic Field Theory** (3 cr) Prereq: ELEC 216, PHYS 212, MATH 221.

Complex vectors. Maxwell's equations. Uniform plane waves. Wave reflection and transmission at interfaces. Waveguides and resonators. Transmission line principles. Antennas. Topics in waves.

[IS] **307. Electrical Engineering Laboratory I** (2 cr) Prereq: ELEC 236. Prereq or parallel: ELEC 304 and 306.  
Laboratory work on circuits and systems, digital and analog electronic circuits, and electromagnetics.

**316. Electronics and Circuits III** (3 cr) Lec 3. Prereq: ELEC 216. Design of biasing circuits for field effect transistors. Frequency response of field effect transistor and bipolar junction transistor filters and amplifiers. Transfer function and frequency response of circuits.

[IS] **317. Electrical Engineering Laboratory II** (2 cr) Prereq: ELEC 304, 306, 307.

Lab work on electromagnetic fields and waves, solid state devices, discrete systems, control systems, and communications.

**361. Advanced Electronics and Circuits** (3 cr) Prereq: ELEC 316. Analog and digital electronics for discrete and integrated circuits. Multistage amplifiers, frequency response, feedback amplifiers, simple filters and amplifiers, MOS and bipolar logic gates and families, A/D and D/A converters.

**362. Digital Electronics** (3 cr) Prereq: ELEC 316.

Basic MOS and BJT saturating and nonsaturating logic circuits; memories; GaAs integrated circuits; bus consideration and interconnections.

**363. Digital Electronics Laboratory** (1 cr) Prereq or parallel: ELEC 362.

Measurement of static and dynamic electrical properties and performance limitations of CMOS, TTL, ECL, and GaAs digital integrated circuits, including static and dynamic random access memories; constraints on electrical interconnections between integrated circuits.

**370. Digital Logic Design** (CSCE 335) (3 cr) Prereq: ELEC 121 or CSCE 230.

Combinational and sequential logic circuits. MSI chips, programmable logic devices (PAL, ROM, PLA) used to design combinational and sequential circuits. CAD tools. LSI and PLD components and their use. Hardware design experience.

**382. Digital Systems Laboratory** (1 cr) Lab. Prereq: ELEC 370.

Design of combinational and sequential circuits using MSI/LSI/PLD components; synthesis of fundamental-, clock-, and pulse-mode circuits; design of digital systems based on RTL and state machine descriptions; designs using CAD tools. Assembly language programs, basic datapath structure and a simple controller.

**398. Special Topics in Electrical Engineering III** (1-6 cr, max 6) Lec. Prereq: Permission.

Offered as the need arises to treat electrical engineering topics for third-year students not covered in other courses.

**399. Undergraduate Research** (1-3 cr per sem, 6 cr max total toward degree) Prereq: Electrical engineering seniors or approval. Research accompanied by a written report of the results.

**400/800. Electronic Instrumentation** (3 cr) Prereq: Senior standing in engineering or permission.

Applications of analog and digital devices to electronic instrumentation. Includes transducers, instrumentation amplifiers, mechanical and solid-state switches, data acquisition systems, phase-lock loops, and modulation techniques. Demonstrations with working circuits and systems.

**406/806. Power Systems Analysis** (3 cr) Prereq: ELEC 438/838.

Symmetrical components and fault calculations, power system stability, generator modeling (circuit view point), voltage control system, high voltage DC transmission, and system protection.

**407/807. Power Systems Planning** (3 cr) Prereq: ELEC 305.

Economic evaluation, load forecasting, generation planning, transmission planning, production simulation, power plant reliability characteristics, and generation system reliability.

**408/808. Engineering Electromagnetics** (3 cr) Prereq: ELEC 306. *Laboratory experiments.*

Applied electromagnetics: Transmission lines in digital electronics and communication. The quasistatic electric and magnetic fields: electric and magnetic circuits and electromechanical energy conversion. Guided waves: rectangular and cylindrical metallic waveguides and optical fibers. Radiation and antennas: line and aperture antennas and arrays.

**410/810. Multivariate Random Processes** (3 cr) Prereq: ELEC 305.

Probability space, random vectors, multivariate distributions, moment generating functions, conditional expectations, discrete and continuous-time random processes, random process characterization and representation, linear systems with random inputs.

**416/816. Materials and Devices for Computer Memory, Logic, and Display (3 cr) Prereq: PHYS 212.**

Survey of fundamentals and applications of devices used for memory, logic, and display. Magnetic, superconductive, semiconductive, and dielectric materials.

**417/817. Semiconductor Fundamentals II (3 cr) Lec 2, lab 1. Prereq: ELEC 421/821.**

Analysis of BJT's and MOSFET's from a first principle materials viewpoint. Static and dynamic analysis and characterization. Device fabrication processes.

**420/820. Plasma Processing of Semiconductors (3 cr) Prereq: Senior or graduate standing.**

Physics of plasmas and gas discharges developed. Includes basic collisional theory, the Boltzmann equation and the concept of electron energy distributions. Results are related to specific gas discharge systems used in semiconductor processing, such as sputtering, etching, and deposition systems.

**421/821. Principles of Semiconductor Materials and Devices I (3 cr) Lec 3. Prereq: PHYS 213.**

Introduction to semiconductor fundamentals, charge carrier concentration and carrier transport, energy bands, and recombination. PN junctions, static and dynamic, and special PN junction diode devices.

**422/822. Introduction to Physics and Chemistry of Solids (PHYS 422/822) (3 cr) Prereq: PHYS/ASTR 213 or CHEM 481/881, MATH 220/820 or 221/821, or permission.**

Introduction to structural, thermal, electrical, and magnetic properties of solids, based on concepts of atomic structure, chemical bonding in molecules, and electron states in solids. Principles underlying molecular design of materials and solid-state devices.

**428/828. Power Electronics (3 cr) Prereq: ELEC 304 and 316. Basic analysis and design of solid-state power electronic devices and converter circuitry.****438/838. Introduction to Electric Power Engineering (3 cr) Prereq: ELEC 216.**

Power systems principles, three phase circuits, transmission line parameters, transmission line modeling, transformers, per unit analysis, generator modeling, and power flow analysis.

**442/842. Basic Analytical Techniques in Electrical Engineering (3 cr) Prereq: MATH 221.**

Applications of partial differential equations, matrices, vector analysis, complex variables, and infinite series to problems in electrical engineering.

**444/844. Linear Control Systems (3 cr) Prereq: ELEC 304.**

Classical (transfer function) and modern (state variable) control techniques. Both time domain and frequency domain techniques are studied. Traditional proportional, lead, lag, and PID compensators are examined, as well as state variable feedback.

**451/851. Linear System Analysis and Design (3 cr) Prereq: ELEC 304.**

In-depth introduction to the theory of linear systems. Includes: the concept of state and state-variable models of both time-varying and time-invariant continuous and discrete-time systems; linear state feedback, controllability and pole placement design; observability and observer design, stability theory; and realization theory.

**454/854. Power Systems Operation and Control (3 cr) Prereq: ELEC 438/838.**

Characteristics and generating units. Control of generation, economic dispatch, transmission losses, unit commitment, generation with limited supply, hydrothermal coordination, and interchange evaluation and power pool.

**461/861. Modern Active Filter Design (3 cr) Prereq: ELEC 304 and 361.**

Fundamental design concepts, trade-offs and design techniques of modern active filters are studied. Active R networks, compensation of op-amp imperfections, switched capacitor filters introduced.

**462/862. Communication Systems (3 cr) Prereq: ELEC 304 and 305.**

Mathematical descriptions of signals in communication systems. Principles of analog modulation and demodulation. Performance analysis of analog communication systems in the presence of noise.

**463/863. Digital Signal Processing (3 cr) Prereq: ELEC 304.**

Discrete system analysis using Z-transforms. Analysis and design of digital filters. Discrete Fourier transforms.

**464/864. Digital Communication Systems (3 cr) Prereq: ELEC 462.**

Principals of digital transmission of information in the presence of noise. Design and analysis of baseband PAM transmission

systems and various carrier systems including ASK, FSK, PSK.

465/865. Introduction to Data Compression (3 cr) Prereq: ELEC 305.

Introduction to the concepts of Information Theory and Redundancy removal. Simulation of various data compression schemes such as Delta Modulation, Differential Pulse Code Modulation, Transform Coding and Runlength Coding.

**467/867. Electromagnetic Theory and Applications (3 cr) Prereq: ELEC 306.**

Engineering application of Maxwell's equations. Fundamental Parameters of Antennas. Radiation, analysis, and synthesis of antenna arrays. Aperture Antennas.

**468/868. Microwave Engineering (3 cr) Prereq: ELEC 306.**

Applications of active and passive devices to microwave systems. Includes impedance matching, resonators, and microwave antennas.

**469/869. Analog Integrated Circuits (3 cr) Prereq: ELEC 361.**

Analysis and design of analog integrated circuits both bipolar and MOS. Basic circuit elements such as differential pairs, current sources, active loads, output drivers used in the design of more complex analog integrated circuits.

**470/870. Digital and Analog VLSI Design (3 cr) Prereq: ELEC 316.**

Introduction to VLSI design techniques for analog and digital circuits. Fabrication technology and device modelling. Design rules for integrated circuit layout. LSI design options with emphasis on the standard cell approach of digital and analog circuits. Lab experiments, computer simulation and layout exercises.

**471/871. Continuous System Simulation (3 cr) Prereq: ELEC 305 or equivalent.**

Basic operation of analog computers, analog simulation, Z-transforms, analysis of digital integration algorithms.

**475/875. Digital Systems (3 cr) Lec 3. Prereq: ELEC 370.**

Synthesis using state machines; design of digital systems; micro programming in small controller design; hardware description language for design and timing analysis.

**478/878. Microprocessor Hardware, Software, and Interfacing (3 cr) Prereq: ELEC 382 or 476/876.**

Personal computers, I/O, LSI circuits, programming, DOS, interfacing, and micro-controllers. Students expected to write programs in assembly language or in C and assembly language and to design hardware.

**479/879. Digital Systems Organization and Design (3 cr) Prereq: ELEC 475/875.**

Hardware development languages, hardware organization and realization, microprogramming, interrupt, intersystem communication, and peripheral interfacing.

**480/880. Introduction to Lasers and Laser Applications (PHYS 480/880) (3 cr I) Prereq: PHYS 213.**

Physics of electronic transition production stimulated emission of radiation. Threshold conditions for laser oscillation. Types of lasers and their applications in engineering.

**481/881. Fourier Optics, Image Analysis, and Holography (3 cr) Prereq: Permission.**

Application of Fourier transforms to image analysis, optical computing, and holography. Other selected applications.

**483/883. Radar Systems (3 cr) Prereq: ELEC 308. Prereq or parallel: ELEC 467/867.**

Radar range equation, radar systems and subsystems, detection in noise, clutter phenomena, pulse compression, radar tracking, synthetic aperture radar, and radar polarimetry.

**484/884. Radar Signal Processing (3 cr) Prereq: ELEC 305 and 306.**

Introduction to the design and operation of various types of atmospheric and meteorological Doppler radar, including weather radar and wind profilers. Signal processing concepts used with modern Doppler radar systems.

**486/886. Applied Photonics (3 cr I) Lec 2, lab 1. Prereq: ELEC 306 or permission.**

Introduction to the use of electromagnetic radiation for performing optical measurements in engineering applications. Basic electromagnetic theory and light interaction with matter are covered with corresponding laboratory experiments conducted.

**[IS] 494. Electrical Engineering Senior Design I (2 cr) Lec 1, lab 3. Prereq: ELEC 317 or permission. *The first in a two semester capstone senior design course sequence.***

A substantial design project that allows application of electrical engineering skills to a multidisciplinary project. Requires project definition, planning and scheduling, effective written and oral communication of technical ideas, incorporation of realistic constraints and engineering standards, functioning effectively on a multidisciplinary team, and applying new ideas as needed to meet project goals.

**(ACE 10) [IS] 495. Electrical Engineering Senior Design II (3 cr) Lec 1, lab 6. Prereq: ELEC 494 or permission. *The first in a two semester capstone senior design course sequence.***

Continuation of a substantial design project that allows application of electrical engineering skills to a multidisciplinary project. A project that meets specifications and that is completed according to a pre-determined schedule and within budget. Requires effective written and oral communication of technical ideas, incorporation of realistic constraints and engineering standards, functioning effectively on a multidisciplinary team, and applying new ideas as needed to meet project goals.

**498/898. Special Topics in Electrical Engineering IV (1-6 cr, max 9) Lec. Prereq: Permission. *ELEC 498/898 is offered as the need arises for electrical engineering topics for fourth-year and graduate students not covered in other courses.*****899. Masters Thesis (6-10 cr)**

Refer to the Graduate Bulletin for 900-level courses.

## Engineering

### Courses of Instruction (ENGR)

**010. Freshman Engineering Seminar (0 cr I) Open only to first year students in the College of Engineering. Pass/No Pass only.**

Introduction to the professions of engineering and construction management. Provides an overview of curricula, majors and leadership opportunities.

**020. Sophomore Engineering Seminar (0 cr I) Open only to first year students in the College of Engineering. Pass/No Pass only.**

Overview of career opportunities in engineering and construction management. Emphasizes internships, cooperative education and career placement.

**250. Engineering Cooperative Education (0-12 cr, max 12 I, II, III) Prereq: Sophomore standing; permission of College of Engineering Dean's Office and department chair of student's engineering major. *All students in engineering participating in cooperative education must register each term prior to commencing work. Special approval is required to take course for credit. Pass/No Pass only.***

Cooperative education work in a regularly established cooperative education work-study program in any engineering curriculum.

**300. Principles of Nuclear Engineering (1 cr) Lec 1.**

Introduction to nuclear engineering principles.

**301. Introduction to Nuclear and Radiation Engineering Concepts (1 cr) Lec 1. *ENGR 301 requires off-campus travel.***

History of nuclear development, basic concepts of radiation and radioactivity, radioactive waste management, global warming, and the impact of nuclear power plants. Industrial applications, health physics, and nuclear medicine. Job opportunities at power plants, graduate school, and national laboratories. Tour of the University of Texas nuclear research reactor and demonstration experiments.

**310. Utilization of Nuclear Technologies in Society (3 cr) Lec 3.**

The applications of nuclear science to society and the fundamental radiation principles utilized in these applications.

**350. Engineering Cooperative Education** (0-12 cr, max 12 I, II, III) Prereq: Junior standing; permission of College of Engineering Dean's Office and department chair of student's engineering major. *All students in engineering participating in cooperative education must register each term prior to commencing work. Special approval is required to take course for credit. Pass/No Pass only.* Cooperative education work in a regularly established cooperative education work-study program in any engineering curriculum.

**400. Professional Ethics and Social Responsibilities** (1 cr II) *Not available for graduate credit.*

Professional relations, personal requirements, civic responsibilities, and ethical obligations for engineering practice. Legal registration of engineers and architects. Subprofessional and professional services. Changing conditions in engineering practice. Requirements for placement in engineering.

**401. Elements of Nuclear Engineering** (MECH 401/801) (3 cr) Lec 3. Prereq: ENGR 300 or 301 or 310; MATH 208/208H; and PHYS 212/212H.

For course description, see MECH 401/801.

**402. Energy Systems and Resources** (3 cr) Lec 3. Prereq: ENGR 301.

Energy as a critical component of civilization. The critical role of energy from the economic and political point of view world wide. Energy resources available, the technology to use the resources, the economics of energy production, the environmental consequences of energy use, and energy policy.

**410. Radiation Protection and Shielding** (3 cr) Lec 3. Prereq: MECH 401/801/ENGR 401.

Basic principles and concepts of radiation protection and shield design. Dosi-metric units and response functions, hazards of radiation doses, radiation sources, basic methods for dose evaluation, and shielding design techniques for photons and neutrons.

**411. Nuclear Reactor Theory** (3 cr) Lec 3. Prereq: ENGR 310.

Introduction to neutron diffusion theory, neutron moderation, neutron thermalization, and criticality condition of nuclear reactor.

**412. Nuclear Reactor Analysis** (3 cr) Lec 3. Prereq: ENGR 411. Group diffusion method, multiregional reactors, heterogeneous reactors, reactor kinetics, and change in reactivity.

**420. Nuclear Reactor Engineering** (3 cr) Lec 3. Prereq: MECH 401/801/ENGR 401.

The physics governing nuclear reactors and the design principles for commercial nuclear power plants. Reactor designs currently operating in the power industry.

**450. Engineering Cooperative Education** (0-12 cr, max 12 I, II, III) Prereq: Senior standing; permission of College of Engineering Dean's Office and department chair of student's engineering major. *All students in engineering participating in cooperative education must register each term prior to commencing work. Special approval is required to take course for credit. Pass/No Pass only.* Cooperative education work in a regularly established cooperative education work-study program in any engineering curriculum.

**450. Work Periods for Seniors.**

**490. Global Experiences in Engineering** (1-3 cr, max 12) Fld. Prereq: Permission. *Choice of subject matter and coordination of on- and off-campus activities are at the discretion of the instructor. Pass/No Pass only.*

Individual or group educational experience combining classroom lectures, discussions, and/or seminars with field and/or classroom studies in a foreign country.

quality in mechanics and other common core courses in engineering across all programs in the College of Engineering; it will conduct leading-edge research; and it will provide service in the State of Nebraska and to the professional community. The major goals of the faculty are:

- to provide rigorous and continuously updated instruction in analytical, computational, and experimental mechanics to prepare undergraduate and graduate students for life-long learning and success in their chosen engineering professions;
- to conduct high quality research programs that advance engineering science, and foster the intellectual development and creativity of both students and faculty to their fullest potential; and
- to provide exemplary service that contributes to the well being of the engineering profession, industry, and the State of Nebraska.

The main function of this department at the undergraduate level is to provide courses that are included in the various curricula in the College of Engineering. These courses fall into the general areas of mechanics of solids, engineering materials, computer-aided analysis in engineering, and experimental stress analysis.

Although the department does not offer a bachelor of science degree in engineering mechanics, it does participate in the Engineering Interdisciplinary Bachelor of Science Degree Program. At the graduate level, the department offers the master of science and the doctoral degrees in engineering mechanics.

Departmental offices and classrooms are housed in Nebraska Hall and the laboratories are located in the Walter Scott Engineering Center. The following specialized laboratories are well equipped for undergraduate and graduate instruction and also for conducting various types of research in the fields related to mechanics of solids, dynamics, vibrations, experimental mechanics, and continuum mechanics.

**Atomic Force Microscopy and Noncontact Laboratory.** The atomic force microscope (AFM) in this laboratory is a Thermomicroscope Autoprobe CP Research AFM. The open architecture of this AFM allows easy access to the cantilever. This AFM has been modified to allow for various dynamic modes of operation to be investigated. The linear and nonlinear vibrations of AFM cantilevers in contact with a specimen surface are exploited for the measurement of material properties with nanoscale resolution. An external function generator, a 200 MHz lock-in amplifier, a 200 MHz digital oscilloscope, and ultrasonic transducers are used in conjunction with the AFM. This laboratory also has a Hysitron Triboscope indenter. The indenter head is integrated with the AFM for measurement of mechanical properties at length scales on the order of a few microns. This particular Triboscope has normal force capabilities as well as the lateral force option including wear and scratch testing.

#### Computer-Aided Engineering Laboratories.

Computer laboratories are available in the Department, including a workstation laboratory and a PC laboratory. The workstation laboratory

is primarily used for research in computational solid mechanics and micro-mechanics. The PC laboratory is used as a support facility for courses in numerical methods, finite element methods, and computer-aided design and robotics.

**Dynamics and Vibrations Laboratory.** This facility is used to demonstrate and test the vibration characteristics of both discrete and continuous mechanical systems. The free and forced response of linear systems, including experiments measuring the internal (structural) damping, natural frequencies, mode shapes and frequency spectrum are explored. Nonlinear effects are also investigated. Measurements are obtained by various transducers, a computer based data acquisition system, oscilloscope, and frequency analyzer.

**Dynamic Materials Characterization Laboratory.** This laboratory is used to study the dynamic response of materials subjected to impact or homogeneous high-strain-rate deformations. The facility contains both Hopkinson torsion and pressure bar devices. Compression, torsion, and tension stress waves are utilized to generate various impulsive dynamic loadings as well as to probe the dynamic response of various materials (including ceramics, metals, and polymer melts and compounds) to these loading conditions. Time-resolved, stress wave profile measurements are obtained via a data acquisition system consisting of high-impedance, precision strain gauges, a 12-bit high-resolution digital oscilloscope with multichannel differential amplifiers, and a PC workstation with control software for automated data acquisition.

**Materials Testing Laboratory.** This laboratory is equipped with testing machines and auxiliary instrumentation to cover a wide range of testing and research possibilities. There are seven universal-type testing machines, plus a 15-foot column machine, with capacities up to 500,000 pounds. Tension, compression, bending, hardness, fatigue, impact, torsion, creep, and other specialized testing can be accommodated.

**Nondestructive Evaluation Laboratory.** This laboratory is used for detection and analysis of internal damage and flaws in advanced polymer composites and other engineering materials. The methods utilized include acoustic emission, acousto-ultrasonics, and ultrasonic scanning. A state-of-the-art acoustic emission system is used for studying damage evolution under loading. This system combines a fully digital architecture with high processing dynamics that allows for studying material response under fast dynamic loads. The system is capable of simultaneous acquisition of acoustic emission parameters and transient data, and is equipped with location software and FFT software. Extensive filtering and cluster analysis capabilities enable damage mechanism identification. This acoustic emission system with a pulser is also used in acousto-ultrasonic experiments. Shape and spectrum analyses of acoustic waves propagated through partially damaged materials are used to evaluate average damage parameters. A leading edge ultrasonic immersion system is used for spatial mapping of internal flaws. In addition

## Department of Engineering Mechanics

**Chair:** Joseph Turner

**Professor:** Allen, Chandra, Dzenis, Turner

**Associate Professors:** Baesu, Bobaru, Feng, Negahban,

Yang

**Assistant Professors:** Lim, Tan

The faculty of the Department of Engineering Mechanics at the University of Nebraska-Lincoln will deliver instructional programs of the highest

to regular A-scan, B-scan, and C-scan, the system provides specialized capabilities, such as full digital waveform storage and analysis at each location, digital filtering, FFT analysis, and 3-dimensional imaging. A high signal conversion rate permits use of high resolution transducers with resonant frequencies within a frequency range of scanning acoustic microscopes.

**Polymer Composites Laboratory.** Properties of advanced lightweight fiber reinforced polymer composites are studied in this laboratory. The laboratory includes a hot press for manufacturing thermoplastic composites, closed-loop programmable testing machines for quasistatic and fatigue testing, nondestructive evaluation equipment, and modern data acquisition hardware and software. A specialized pressclave to produce thermoset composites, thermal analysis equipment, and devices for mechanical characterization of interfaces between fibers and matrices are under development.

**Polymer Mechanics Laboratory.** This laboratory is equipped to conduct extension and shear testing of polymers at elevated temperatures. Automated data acquisition and control is available for the application of complex loading patterns, and for conducting long-term testing. A vacuum oven is available for sample preparation and conditioning.

**Surface Mechanics and Tribology Laboratory.** This laboratory is mainly for statistical studies of the topographical features of material surfaces and the influences of surface topography on the micromechanical mechanisms governing the tribological response of these surfaces. The laboratory is equipped with a Proscan 1000 measuring system, which is an optical profilometer capable of non-contact three-dimensional surface profiling over large areas and at a 2-mm depth of field and a submicron resolution. The use of a chromatic sensor allows examinations of dark and rough surfaces such as those of fractured silicon carbide. The scanning process is fully computerized and the computer software enables two- and three-dimensional surface visualizations as well as complete statistical analysis of surface topography. An ongoing research project in the laboratory is to study the friction and wear mechanisms of asfractured rough surfaces by comparing the surface features of such a tribo-pair before and after tribometric experiment and by correlating the evolution of frictional response with that of surface topography.

**Ultrasonic Materials Characterization Laboratory.** This laboratory is used for characterizing materials including metals, concrete, piezoelectrics, and ceramics. Of particular interest are diffuse ultrasonic methods for studying heterogeneous materials. Equipment in this laboratory includes two 200 MHz digital oscilloscopes, an ultrasonic pulser receiver, a 15 MHz arbitrary waveform generator, a large water tank with three-dimensional scanning control for ultrasonic measurements, preamplifiers, a large optical table with laser interferometer equipment, and a variety of ultrasonic transducers (longitudinal and shear) covering frequencies from 500kHz to 20 MHz. Computers with GPIB boards and Labview

software are used for control of experiments and data acquisition.

## Courses of Instruction (ENGM)

**[ES] 220. Statics** (3 cr I, II) Prereq: MATH 106. *For students in architecture and construction management.*

Fundamental concepts, equilibrium of force systems, analysis of simple frames and trusses. Centroid and moments of inertia and friction.

**[ES] 223. Engineering Statics** (3 cr I, II) Prereq: MATH 107, PHYS 211.

Action of forces on engineering structures and machines. Force systems, static equilibrium of frames and machines. Friction, center of gravity, moment of inertia, vector algebra.

**223H. Honors: Engineering Statics** (3 cr I, II) Prereq: Good standing in the University Honors Program or by invitation; MATH 107 and PHYS 211.

Bodies in equilibrium. Vector algebra, equivalent force systems, distributed loads, and center of gravity. Analysis of trusses, frames, and machines. Friction, wedges, crews, and belts. Area moments of inertia.

**250. Mechanics I** (2 cr I, II) Prereq: PHYS 211. Parallel: MATH 208. *For electrical engineering majors.*

Force actions in static coplanar systems with applications to engineering structures and machines. Resultants, moments, couples, equivalent force systems, vector algebra. Static equilibrium conditions and equations.

**[ES] 324. Strength of Materials** (3 cr I, II) Prereq: ENGM 220 or 223. *For students in architecture and construction management.* Stress and strain analysis in elastic materials. Use of properties of materials in the analysis and design of welded and riveted connections, statically determinate and indeterminate flexure members, columns. Combined stresses, axial, eccentric and torsional loading. Observations of laboratory tests for axially loaded specimens. Introduction to shear and moment diagrams.

**[ES] 325. Mechanics of Elastic Bodies** (3 cr I, II) Prereq: ENGM 223, MATH 208.

Concept of stress and strain considering axial, torsional, and bending forces. Shear and moments. Introduction to combined stresses and column theory.

**325H. Honors: Mechanics of Elastic Bodies** (3 cr I, II) Prereq: Good standing in the University Honors Program or by invitation; ENGM 223 or 223H; MATH 208.

Introduction to the mechanics of elastic bodies. Concepts of stress and strain. Extension, bending, and torsion. Shear and moment diagrams. Principal stresses. Deflection of statically determinate and indeterminate beams. Buckling of columns. Special advanced topics.

**350. Mechanics II** (2 cr I, II) Prereq: ENGM 250. *For electrical engineering majors.*

Application of Newton's laws to engineering problems involving coplanar kinematics and kinetics of particles. Work, energy, impulse, and momentum. Conservative systems. Periodic motion.

**[ES] 373. Engineering Dynamics** (3 cr I, II) Prereq: ENGM 223, MATH 208.

Force action related to displacement, velocity, and acceleration of rigid bodies. Kinematics of plane motion, kinetics of translation and rotation. Mass moment of inertia, vibration, work, energy and power, impulse and momentum.

**373H. Honors: Engineering Dynamics** (3 cr I, II) Prereq: Good standing in the University Honors Program or by invitation; ENGM 223 or 223H; MATH 208.

Motion of particles and rigid bodies under the action of forces and moments. Kinematics of plane motion: displacement, velocity, and acceleration. Kinetics of translation and rotation; work, energy and power; impulse, momentum and impact. Introduction to vibration analysis.

**[ES] 380. Elements of Computer-aided Design** (3 cr) Lec 2, lab 2. Prereq: MATH 221; MECH 130 or CSCE 150E.

Principles and techniques currently used for the computer-aided design (CAD). Applications of interactive graphics devices for drafting, design, and analysis. Modelling and analogy of engineering systems. Elementary finite element, Bode, and numerical analyses. CAD case studies and term project.

**399. Undergraduate Research and Thesis** (1-5 cr, max 6 I, II)

Ind. Prereq: Permission.

Engineering design or laboratory investigation that an undergraduate is qualified to undertake.

**447/847. Advanced Dynamics** (3 cr I, II) Prereq: ENGM 373 and MATH 221.

Particle dynamics using Newton's laws, energy principles, momentum principles. Rigid body dynamics using Euler's equations and Lagrange's equations. Variable mass systems. Gyroscopic motion.

**448/848. Advanced Mechanics of Materials** (3 cr I, II) Prereq: ENGM 373, 325.

Stresses and strains at a point. Theories of failure. Thick-walled pressure vessels and spinning discs. Torsion of noncircular sections. Torsion of thin-walled sections, open, closed, and multicelled. Bending of unsymmetrical sections. Cross shear and shear center. Curved beams. Introduction to elastic energy methods.

**450/850. Introduction to Continuum Modeling** (3 cr II) Prereq: MATH 221/821, ENGM 325 and 373.

Basic concepts of continuum modeling. Development of models and solutions to various mechanical, thermal and electrical systems. Thermo-mechanical and electro-mechanical coupling effects. Differential equations, dimensional methods and similarity.

**451/851. Introduction to Finite Element Analysis** (CIVE 451/851) (3 cr)

Matrix methods of analysis. Finite element stiffness method. Computer programs. Applications to structures and soils. Introduction to finite element analysis of fluid flow.

**452/852. Experimental Stress Analysis I** (3 cr I) Lec 2, lab 3. Prereq: ENGM 325.

Investigation of the basic theories and techniques associated with the analysis of stress using mechanical strain gages, electric strain gages, brittle lacquer, photoelasticity, and membrane analogy.

**475. Introduction to Vibrations and Acoustics** (3 cr) Prereq: ENGM 373 and MATH 221.

Linear response of one and two degree of freedom systems. Rotating imbalance, vibration isolation. Fundamentals of wave motion, vibrating strings and bars. Acoustic wave equation, acoustic impedances, sound propagation, traveling wave solutions, separation of variables. The Helmholtz resonator. Acoustic waves in pipes. Experiments in mechanical vibrations and acoustics.

**[ES] 480/880. Numerical Methods in Engineering** (3 cr I) Lec 3. Prereq: MATH 221/821; and Computer Programming. Linear Algebra recommended. *Credit towards the degree cannot be earned in both CSCE/MATH 340/840 and ENGM 480/880.*

Numerical algorithms and their convergence properties in: solving nonlinear equations; direct and iterative schemes for linear systems of equations; eigenvalue problems; polynomial and spline interpolation; curve fitting; numerical integration and differentiation; initial and boundary values problems for Ordinary Differential Equations (ODEs) and systems of ODEs with applications to engineering; finite difference methods for partial differential equations (potential problems, heat-equation, wave-equation).

**491/891. Special Topics in Engineering Mechanics** (1-6 cr, max 6) Lec. Prereq: Permission. *See current Schedule of Classes for offerings.*

Treatment of special topics in engineering mechanics by experimental, computational and/or theoretical methods. Topics vary from term to term.

**499H. Honors Thesis** (1-6 cr) Prereq: Senior standing; good standing in the University Honors Program or by invitation; major in engineering.

Honors thesis research project meeting the requirements of the University Honors Program. Independent research project executed under the guidance of a member of the faculty of the Department of Engineering Mechanics that contributes to the advancement of knowledge in the field and culminates in the presentation of an honors thesis to the department and college.

**801. Analytical Methods in Engineering I** (3 cr)

**802. Analytical Methods in Engineering II** (3 cr) Prereq: ENGM 801 or permission.

843. **Introduction to Piezoelectricity with Applications** (3 cr) Prereq: ENGM 325 and 373 or permission.

875. **Vibration Theory and Applications** (3 cr) Prereq: ENGM 373 and MATH 221.

899. **Masters Thesis** (6-10 cr)

Refer to the Graduate Bulletin for 900-level courses.

## Environmental Engineering

The Departments of Biological Systems Engineering, Civil Engineering, and Chemical and Biomolecular Engineering at the University of Nebraska jointly administer a multi-disciplinary program of teaching and research leading to the masters of science in environmental engineering (MSEE) degree. The program home is in the Department of Civil Engineering. Environmental engineering faculty members in the three departments offer a balance of expertise covering four major areas of environmental engineering, as sanctioned by the American Academy of Environmental Engineers (AAEE). The field in which students may specialize include: **water supply engineering, wastewater engineering, hazardous waste management engineering, and solid waste management engineering**. In addition, a fifth area in **diffuse (non-point) and agricultural waste management engineering** is offered.

## Department of Industrial and Management Systems Engineering

**Chair:** Jeffrey C. Woldstad

**Interim Associate Chair:** Robert E. Williams

**Professors:** Ballard, Bishu, Choobineh, Cochran, Hallbeck, Hoffman, Rajurkar, Riley, Woldstad

**Associate Professors:** Savory, Williams

**Assistant Professors:** Jones, Ko

The mission of the department is to educate engineers, conduct research, and disseminate information to benefit the citizens of Nebraska and the nation.

It is our educational goal to graduate outstanding engineers thoroughly trained in mathematics, basic sciences, engineering sciences, communications, computing, humanities, social sciences, engineering design and industrial engineering fundamentals, so that the graduates can enter the professional practice of engineering and perform at an exemplary level.

Our program educational objectives are:

- Design, develop, implement and/or improve integrated systems that involve people, materials, machines, information, technology, processes, equipment, and/or financial resources
- Serve as effective change agents in the organizations that employ them, based on strong interpersonal and teamwork skills, an understanding of professional and ethical responsibility, and a willingness to take the initiative

- Able to use modern computer software tools to solve engineering problems and effectively communicate results, solutions, and/or recommendations
- Obtain professional employment and/or admission to a graduate education program.

The department offers instruction in the areas of ergonomics, engineering management, manufacturing, manufacturing systems, and operations research.

The department offers a curriculum leading to the degree of bachelor of science in industrial engineering, designed to help prepare the student for a wide range of employment positions or further study. Industrial engineering involves the science and practice of designing and managing complex integrated systems. Industrial engineering education provides students with the background to participate in such activities as manufacturing engineering, ergonomics, production planning and control, economic analysis, statistical analysis, quality control, manpower planning, facilities design, packaging, robotics, computer simulation, work place design and analysis, inventory control and optimization.

The Department of Industrial and Management Systems Engineering is located on City Campus in E175 Nebraska Hall (faculty offices, student lounge, and computer lab) and W181 Nebraska Hall (administrative offices). The laboratories, located in the Walter Scott Engineering Center, Nebraska Hall, and the 940 N 17th Street Building, are equipped to support the teaching functions associated with advanced manufacturing, the man-man and man-machine interface problems, the simulation of industrial situations, and a range of operations research problems.

**Human Factors/Ergonomics Laboratory.** Equipment in this facility includes an environmental chamber, oxygen consumption equipment for measuring physical work capacities, force-sensing resistors for grip studies, hand and pinch dynamometers, bicycle ergometer, and electromyography equipment of assessing localized muscle fatigue. Work focuses on assessing risk factors for cumulative trauma disorders in the hand and wrists and on human-computer interaction studies to evaluate user menus and interface design for manufacturing.

**Innovative Design and Ergonomic Analysis (IDEA) Laboratory.** The IDEA Lab employs user-centered design principles to design products, such as surgical tools or homeland security devices, that are intuitive to learn, easy to use and maintain by involving the end-users in the design process. The IDEA Lab also evaluates these products or those designed by others, such as a reduced size piano keyboard or computer mice, using subjective, usability and objective ergonomic testing, often employing the end-user. To perform the objective ergonomic testing, the IDEA Lab has custom designed equipment to study the movement of multiple joints such as the wrist and hand or the hand and forearm, touch screens to examine aiming capabilities, devices for force or torque measurement, anthropometry electromyography and electrogoniometry and a mock laparoscopic surgical suite.

**Nontraditional Manufacturing Research Laboratory.** The laboratory is the only facility of its kind in the United States studying advanced manufacturing processes. Advanced manufacturing equipment is needed to machine materials such as ceramics, super alloys, composites and tool steels used by the aerospace, automotive, electronics, and medical components industries. The advanced machining processes studies include electrodissolve machining, electrochemical machining, laser machining, abrasive waterjet machining, abrasive flow machining and ultrasonic machining. Work focuses on improving these advanced processes, developing computer-controlled systems, improving the surface integrity achieved with these processes, designing machine tools and applying the new processes to production of new complex parts while considering economics, safety, and the environment.

### RFID and Supply Chain Logistics Laboratory.

The laboratory is equipped with radio frequency identification (RFID) readers, tags, antennas and software. Warehouse management software, conveyor systems, retrieval systems and RFID training simulator are included.

## Requirements for the Degree of Bachelor of Science in Industrial and Management Systems Engineering (Lincoln Campus)

First Semester	Credits
CHEM 109 General Chemistry I <sup>33</sup> .....	4
ENGR 010 Freshman Engineering Seminar .....	0
IMSE 050 Intro to Industrial Engineering .....	0
MATH 106 Analytic Geometry & Calculus I .....	5
MECH 130 Intro to CAD .....	2
ACE Electives <sup>34</sup> .....	6
	17

Second Semester	Credits
MATH 107 Analytic Geometry & Calculus II .....	5
PHYS 211 General Physics I .....	4
ACE Electives <sup>34</sup> .....	6
	15

Third Semester	Credits
ENGM 223 Engineering Statics .....	3
ENGR 020 Sophomore Engineering Seminar .....	0
IMSE 206 Engineering Economy I .....	3
IMSE 275 Intro to Manufacturing Processes .....	3
MATH 208 Analytic Geometry & Calculus III .....	4
PHYS 212 General Physics II .....	4
	17

Fourth Semester	Credits
CSCE 155 Computer Science I <sup>35</sup> .....	4
ELEC 211 Elements of Electrical Engineering .....	3
ELEC 231 Electrical Engineering Lab .....	1
IMSE 250 Intro to Industrial Systems .....	3
JGEN 200 Technical Communication I .....	3
MATH 221 Differential Equations .....	3
	17

<sup>33</sup> Can be substituted with CHEM 111 or 113.

<sup>34</sup> Choose one course each from ACE outcomes 5, 6, 7, 8, and 9 elective courses shown on page 383.

<sup>35</sup> Can be substituted with CSCE 150E (3 hr) and one of the following 1 hr courses: CSCE 251K or 252A.

<b>Fifth Semester</b>	<b>Credits</b>
IMSE 305 Intro to Engineering Management.....	3
IMSE 315 Intro to Ergonomics .....	3
IMSE 321 Engr Statistics & Data Analysis.....	3
Engineering Science Elective <sup>36</sup> .....	3
ACE Elective <sup>34</sup> .....	3
	15

  

<b>Sixth Semester</b>	<b>Credits</b>
IMSE 328 Deterministic OR Models.....	3
IMSE 334 Production & Operations Management .....	3
IMSE 375 Manufacturing Engineering.....	3
Information Systems Elective <sup>37</sup> .....	3
Engineering Science Elective <sup>35</sup> .....	3
Communication Elective <sup>38</sup> .....	3
	18

  

<b>Seventh Semester</b>	<b>Credits</b>
IMSE 421 Applied Statistics & Quality Control .....	3
IMSE 428 Stochastic OR Models .....	3
IMSE 440 Discrete Event Simulation.....	3
IMSE Elective I ( <i>select from following list</i> ) .....	3
IMSE Elective II ( <i>select from following list</i> ) .....	3
	15

  

<b>Eighth Semester</b>	<b>Credits</b>
ENGR 400 Professional Ethics.....	1
IMSE 434 Facility Planning & Design.....	3
IMSE 450 Senior Engineering Project .....	3
IMSE Elective I ( <i>select from following list</i> ) .....	3
IMSE Elective II ( <i>select from following list</i> ) .....	3
Technical Elective <sup>39</sup> .....	3
	16

Total Credit Hours Required..... 131

## IMSE Electives I

- IMSE 405 Analysis of Engineering Management
- IMSE 406 Decision & Risk Analysis
- IMSE 412 Occupation Safety–A System Analysis
- IMSE 415 Cognitive Ergonomics
- IMSE 416 Physical Ergonomics
- IMSE 417 Occupational Safety Hygiene Engineering
- IMSE 422 Industrial Quality Control
- IMSE 476 Manufacturing Information Systems

## IMSE Electives II

- IMSE 460 Packaging Engineering
- IMSE 461 RFID Systems in the Supply Chain
- IMSE 470 Theory & Practice of Materials Processing
- IMSE 471 Tool & Die Design
- IMSE 475 Manufacturing Systems I
- IMSE 477 Robotics
- IMSE 483 Logistics in the Supply Chain

## Courses of Instruction (IMSE)

- [ES] 050. Introduction to Industrial Engineering (0 cr) Lab 3. Pass/No Pass only.**  
Overview of industrial engineering areas: industrial engineering history, job functions, career paths, and future industry trends.
- [ES] 201. Technology and Society (3 cr) Lec 3. Prereq: Sophomore standing. Intended for students majoring in areas other than engineering and science.**  
Understanding technology and its impact on society.
- [ES] 206. Engineering Economy I (3 cr I, II, III) Prereq: Sophomore standing. Credit toward the degree may be earned in only one of: IMSE 206 or CHME 452/852.**  
Introduction to methods of economic comparisons of engineering alternatives: time value of money, depreciation, taxes, concepts of accounting, and activity-based costing.
- 250. Introduction to Industrial Systems (3 cr) Prereq: IMSE 206 and JGEN 200, or parallel. IMSE 250 requires a team-based applied project.**  
Introduction to the theory and methods to design and analyze systems. Problem identification, description, modeling, information systems, solution and implementation, project management, presentation techniques, report writing, work design and measurement, and work measurement techniques.
- 275. Introduction to Manufacturing Processes (3 cr) Prereq: Sophomore standing.**  
Introduction to manufacturing history and an overview of manufacturing technologies and future trends (e.g., product design, semiconductor and electronics manufacturing; computer manufacturing; metal forming and machining, plastic injection molding, micro-machining, and biotechnology in manufacturing).
- 302. Engineering Sales (3 cr) Prereq: Junior standing and IMSE 206.**  
Sales engineering requirements. Relationship of sales engineering to contract administration, purchasing, production, and marketing.
- [IS] 305. Introduction to Engineering Management (3 cr) Prereq: Junior standing.**  
Introduction to engineers transitioning into management: engineering managerial functions; planning and organizing technical activities; motivation of individuals and groups; team building; leadership; power and influence; decision making; communications; conflict resolution and project management using a software package.
- [IS] 315. Introduction to Ergonomics (3 cr) Prereq: IMSE 250 or permission.**  
Analysis and design of work systems considering human capabilities and limitations, human anatomy and physiology, interacting with physical environment, and occupational safety and health. Overview of physical ergonomics, safety, hygiene, and cognitive ergonomics.
- [ES] 321. Engineering Statistics and Data Analysis (3 cr) Prereq: MATH 208.**  
An applications-oriented course using statistical software for formulating and solving engineering statistical problems. Descriptive statistics, probability distributions, variability, sampling, confidence intervals, tests of significance, and design of experiments.
- 328. Deterministic Operations Research Models (3 cr) Prereq: MATH 221; IMSE 250 or permission.**  
Application of deterministic operations research techniques: linear programming, transportation problems, assignment problems, integer programming. Model formulation and problem solving using a computer package.
- 334. Production and Operations Management (3 cr) Prereq: Parallel IMSE 328.**  
Introduction to production system concepts (e.g., JIT, Kanban, MRP, CONWIP), operational strategies, capacity planning, supply chain management, and scheduling of parts, jobs, and personnel.
- 375. Manufacturing Engineering (3 cr) Prereq: MECH 130 and IMSE 275. A key component of the course is a design project.**  
Basic principles of computer-aided manufacturing and technologies impacting the product development cycle. Potential topics: software and hardware of numerical control machines, robotics, computer control of manufacturing processes and systems, rapid prototyping, and solid modeling.
- [IS] 416/816. Physical Ergonomics (3 cr) Lec 2, lab 3. Prereq: IMSE 421 or permission.**  
Human performance in work. Human response to various environmental and task-related variables with emphasis on physical and physiological effects.
- 417/817. Occupational Safety Hygiene Engineering (3 cr) Prereq: Senior standing or permission.**  
Introduction to occupational hygiene engineering with emphasis on workplace environmental quality. Heat, illumination, noise, and ventilation.
- [ES] 421/821. Applied Statistics and Quality Control (3 cr) Prereq: IMSE 321.**  
Systematic analysis of processes through the use of statistical analysis, methods, and procedures; statistical process control, sampling, regression, ANOVA, quality control, and design of experiments. Use of software for performing a statistical analysis.
- [ES] 422/822. Industrial Quality Control (3 cr II) Lec 2, lab 3. Prereq: IMSE 321.**  
Statistical process control and quality assurance techniques in manufacturing. Control charts, acceptance sampling, and analyses and design of quality control systems.
- [ES] 428/828. Stochastic Operations Research Models (3 cr) Prereq: IMSE 321.**  
Techniques for understanding and predicting stochastic system behavior. Probability, Markov chains, queuing analysis, dynamic programming, and reliability.
- 434. Facility Planning and Design (3 cr) Prereq: IMSE 315; parallel IMSE 428.**  
Design, analysis and layout of facilities: queuing, material handling systems, material flow analysis, systematic layout planning and design of warehouse facilities.
- 440/840. Discrete Event Simulation Modeling (3 cr) Prereq: IMSE 206 and 321; CSCE 155.**  
Development of simulation models of discrete systems. Model development, Monte Carlo techniques, random number generators, and output analysis.
- (ACE 10) [IS] 450. Senior Engineering Project (3 cr) Prereq: Senior standing and IMSE 315; Parallel IMSE 421, 428, 434, 440.**  
Execution of a design project. Integrating concepts of facility

- 36 Engineering science electives total 6 hours. A student can choose from MECH 200 or 310, ENGM 325 or 373, or METL 260.
- 37 Information systems electives total 3 hours. A student can choose from any CSCE course except CSCE 101, ELEC 121, MATH 340/840, or MNGT 350, 452, 454, 456, 457, or 458.
- 38 Choose one course from the ACE SLO two elective courses shown on page 383.
- 39 Three (3) credits of technical elective courses are to be selected by the student in conjunction with his/her adviser to formulate a coherent program in industrial engineering. A student can choose from any course in the IMSE Electives I and IMSE Electives II lists or a department-approved technical course at the sophomore level (200 level) or above from sciences, engineering, or mathematics.

design, production planning, workplace design, plant engineering, economic analysis, manufacturing processes and resource allocation.

**460/860. Packaging Engineering (3 cr)** Prereq: IMSE 206, IMSE 321, ENGM 373.

Investigation of packaging processes, materials, equipment and design. Container design, material handling, storage, packaging and environmental regulations, and material selection.

**461/861. RFID Systems in the Supply Chain (3 cr)** Lec 3.

Foundations of Radio Frequency Identification Systems (RFID). The fundamentals of how RFID components of tag, transponder, and antennae are utilized to create RFID systems. Best practices for implementation of RFID systems in common supply chain operations.

**470/870. Theory and Practice of Materials Processing (3 cr)** Lec 2, lab 3. Prereq: IMSE 370.

Theory, practice and application of conventional machining, forming and non-traditional machining processes with emphasis on tool life, dynamics of machine tools and adaptive control.

**471/871. Tool and Die Design (3 cr)** Prereq: IMSE 370.

General consideration in tool designing, design of tool and workholding devices, forming machines and presswork tools; application of computer graphics and finite element techniques, and prediction of tool paths in CNC machines.

**475/875. Manufacturing Systems I (3 cr)** Prereq: IMSE 375, 428.

Principles of automated production lines; analysis of transfer lines; group technology; flexible manufacturing systems; and just-in-time; and optimization strategies for discrete parts manufacturing.

**476/876. Manufacturing Information Systems (3 cr)** Lec 2, lab 3. Prereq: Senior standing; CSCE 155 or equivalent.

An exploration of information systems and their impact in a manufacturing environment. Software, hardware, database systems, enterprise resource planning, networking, and the Internet.

**477/877. Robotics (3 cr)** Lec 2, lab 3. Prereq: IMSE 375.

Basic robotics technology; application in manufacturing, manipulators and mechanical design; programming languages; intelligence and control.

**481/881. Supply Chain Optimization (3 cr)** Lec 3.

Foundations of supply chain network modeling. The concepts that support the economic and service trade-offs in supply chain and logistics management. Using decision support system (DSS) to design optimal logistics network models given data requirements and operational parameters. Using leading software packages to model problems arising in strategic management of logistics networks.

**483/883. Logistics in the Supply Chain (3 cr)** Prereq: IMSE 334.

The process of planning, implementing and controlling the efficient, effective flow and storage of goods, services and related information from the point of origin to the point of consumption. Domestic transportation systems, distribution centers and warehousing, international logistics, logistics system controls, and reengineering logistics systems.

**498/898. Laboratory Investigation (1-6 cr, max 9 I, II, III) Lab.**

Prereq: Senior standing and permission.

Investigation and written report of research into a specific problem in any area of industrial or management systems engineering.

**499H. Honors Thesis (1-3 cr)** Prereq: Senior or junior standing, admission to the University Honors Program.

Independent research project conducted under the guidance of a faculty member in the Department of Industrial and Management Systems Engineering. Research should contribute to the advancement of knowledge in the field. Written thesis and formal presentation are required.

**899. Masters Thesis (1-10 cr)**

Refer to the Graduate Bulletin for 900-level courses.

## Department of Mechanical Engineering

**Interim Chair:** Jeffrey E. Shield

**Professors:** Barton, Gogos, Lou, Reid, Robertson, Shield, To

**Associate Professors:** Cole, Farritor, Schade, Szydłowski, Zhang

**Assistant Professors:** Gu, Nelson

**Lecturer:** Coen-Brown

The mission of the Department of Mechanical Engineering, University of Nebraska-Lincoln, is to provide quality educational programs for undergraduate and graduate students planning careers in mechanical engineering or allied fields; to create and disseminate knowledge through research, publication, and other scholarly activities; to engage in professional activities to promote the mechanical engineering profession; and, to provide support to enhance the economic well-being of the state and the nation.

**Objectives.** The undergraduate and graduate programs offered by the Department of Mechanical Engineering are intended to prepare students for successful careers and lifelong learning in mechanical engineering or allied fields in which the academic discipline serves as an educational base. Specifically, the program objectives of the Department are:

- to attract, develop, and retain a dedicated and competent faculty capable of fulfilling the mission of the Department in teaching, research, and service;
- to maintain, update, and improve an undergraduate program which is designed to prepare graduates for successful careers and lifelong learning. The program should have a solid base of physical and natural sciences, mathematics, social sciences and humanities, and communications. The curriculum should be broad-based with required courses in two stems of coherent course offerings in thermal and mechanical systems, including the design and realization of such systems;
- to provide educational opportunities to off-campus students and practicing engineers through extended education;
- to create and disseminate knowledge through research, publication, and other scholarly activities; and
- to engage in professional activities to promote the mechanical engineering profession.

Mechanical engineering is concerned with all forms of energy conversion and transmission; the flow of fluids and heat; the development, design, and operation of machinery and equipment, material structure and properties; and transportation processes. The course of study is designed to give the student fundamental preparation to enter the fields of research, design, operation, production, sales, or management.

The Mechanical Engineering Department is structured into three major academic areas: thermal-fluid science engineering, systems and design engineering, and materials science engineering.

From these three major areas, a student can develop an emphasis area of study by utilizing the various technical elective courses in the major academic areas or an emphasis area could be directed toward studies in aerospace engineering, automotive engineering, robotics, biomedical engineering, computational methods, and others depending upon the technical courses available and the interest of the student.

Brief descriptions of some of the laboratories in the department are given below.

### Design, Modeling, Measurements, and Controls

**Laboratories.** Several laboratories in these areas support the undergraduate and graduate work in mechanical system design, machinery dynamics, basic measurements, and mechanical system controls. The laboratories contain a wide variety of instrumentation equipment, bench models of control mechanisms and systems, analog computers for simulation studies, shaker system and dynamic recording equipment for machinery vibrations, microcomputers, and extensive areas for project activity.

### Graduate Student and Staff Research Laboratories.

These laboratories, extensions of those described above, are equipped for research in the fields of fluid mechanics, heat transfer, thermodynamics, turbulence, flow visualization, computational fluid mechanics, measurements, turbomachinery and engine research, combustion, metallurgy and corrosion, microcharacterization of materials, mechanical design, dynamics, and controls.

### Materials Laboratories.

Undergraduate facilities are available to support instruction in modern metallographic techniques, X-ray diffraction methods, mechanical testing of materials, materials processing, thermal analysis, heat treatment of ferrous and nonferrous materials, and the evaluation of materials-environment compatibility. Additional research facilities are available to advanced undergraduate and graduate students in the area of powder metallurgy, thin film structures, gas analysis and corrosion of metallic and nonmetallic materials, analytical electron microscopy, and the study of phase transformations in alloys.

### Thermodynamics, Fluid Dynamics, and Heat Transfer Laboratories.

These laboratories are equipped with a variety of facilities for demonstrating and experimenting with the basic concepts of fluid flow and energy conversion. Available equipment includes wind tunnels, engines, turbines, pumps, compressors, a complete air-conditioning unit, heat exchangers, thermal radiation systems, and numerous fluid flow devices.

## Requirements for the Degree of Bachelor of Science in Mechanical Engineering (Lincoln campus)

First Semester	Credits
CHEM 111 Chemistry for Engineering & Technology <sup>40</sup>	4
ENGR 010 Freshmen Engineering Seminar	0
MATH 106 Analytic Geometry & Calculus I	5
ACE Electives <sup>41</sup>	6
	15

Second Semester	Credits
CSCE 150E Intro to Computer Programming for Scientists & Engineers	3
MATH 107 Analytic Geometry & Calculus II	5
MECH 130 Intro to CAD	2
PHYS 211 General Physics	4
PHYS 221 General Physics Lab I <sup>42</sup>	1
	15

Third Semester	Credits
ENGM 223 Engineering Statics	3
ENGR 020 Sophomore Engineering Seminar	0
IMSE 206 Engineering Economy I	3
JGEN 200 Technical Communication I	3
MATH 208 Analytic Geometry & Calculus III	4
PHYS 212 General Physics II	4
PHYS 221 General Physics Lab II <sup>43</sup>	1
	17

Fourth Semester	Credits
ENGM 325 Mechanics of Elastic Bodies	3
ENGM 373 Engineering Dynamics	3
MATH 221 Differential Equations	3
MECH 200 Engineering Thermodynamics	3
METL 360 Elements of Materials Science	4
	16

Fifth Semester	Credits
ELEC 211 Elements of Electrical Engineering	3
ELEC 231 Electrical Engineering Lab	1
MATH 314 Applied Linear Algebra (Matrix Theory)	3
MECH 310 Fluid Mechanics	3
MECH 342 Kinematics & Dynamics of Machinery	3
Communication Studies Elective <sup>43</sup>	3
	16

Sixth Semester	Credits
IMSE 321 Engineering Statistics & Data Analysis or STAT 380 Statistics & Applications	3
MECH 300 Thermal Systems & Design	3
MECH 343 Elements of Machine Design	3
MECH 350 Intro to Dynamics & Control of Engineering Systems	3
MECH 380 Mechanical Engineering Measurements	3
	15

Seventh Semester	Credits
MECH 370 Manufacturing Methods & Processes	3
MECH 420 Heat Transfer	3
MECH 446 Mechanical Engineering Design I <sup>44</sup>	3
MECH 488 Kinematics & Machine Design Lab	2
Mechanical Engineering Technical Elective <sup>45</sup>	3
ACE Elective <sup>41</sup>	3
	17

- 40 CHEM 109 and 110 may be substituted for CHEM 111. Only 4 credits count toward graduation.
- 41 Choose one course each from ACE outcomes 5, 6, 7, 8, and 9 elective courses shown on page 383.
- 42 Or, instead, PHYS/ASTR 222 General Physics Lab II (1 cr) may be taken in the Third Semester
- 43 Choose one course from the following: COMM 210, 283, or 286 (ACE 2).
- 44 The capstone design sequence must be taken in the order shown in the curriculum and should be taken in the last two semesters of the program (MECH 446 and 447).
- 45 Design and technical electives must be chosen from a list of approved 400-level mechanical engineering elective courses. Consult your adviser for suggested choices.

Eighth Semester	Credits
ENGR 400 Professional Ethics	1
MECH 447 Mechanical Engineering Design II <sup>43</sup>	2
MECH 487 Thermal Fluids Lab	2
Mechanical Engineering Design Elective <sup>44</sup>	3
Senior Elective <sup>46</sup>	3
ACE Elective <sup>41</sup>	6
	17

**Total Credit Hours Required: 128**

## Courses of Instruction

The courses available under the Department of Mechanical Engineering are listed below by area of specialization.

### Mechanical Engineering (MECH)

#### 100. Introduction to Mechanical Engineering (1 cr)

Overview of mechanical engineering. Introduction to problem layout, and development of basic skills required to solve mechanical engineering problems. Collection, manipulation and presentation of engineering data.

#### 130. Introduction to CAD (2 cr I, II) Lec, lab.

Principles and accepted practices of geometric design. Computer generation of 2D and 3D models for mechanical systems. Introduction to engineering design practices such as specifications, dimensioning, and tolerancing.

#### [ES] 200. Engineering Thermodynamics (3 cr I, II, III) Prereq: PHYS 212 and ENGM 223.

First and Second Laws of Thermodynamics, properties of gases and vapors. Sources of energy and its conversion to work.

#### 200H. Honors: Engineering Thermodynamics I (3 cr II) Prereq: Good standing in the University Honors Program or by invitation; PHYS 212; ENGM 223.

First and Second Laws of Thermodynamics, properties of gases and vapors. Sources of energy and its conversion to work. Honors students will be expected to study beyond the students in the normal sections and do a special project.

#### [ES] 300. Thermal Systems and Design (3 cr I, II) Prereq: MECH 200.

Applications of control-volume analysis (mass, energy, and momentum), both transient and steady; mixtures of gases and vapors; introduction to combustion; thermodynamic relations and establishment of data banks of thermal properties; applications of computer-aided engineering to processes and cycles; methodologies and case studies for thermal systems design; execution of small-scaled design projects.

#### [ES] 310. Fluid Mechanics (CIVE 310) (3 cr I, II) Prereq: ENGM 373; MATH 221. Parallel: MECH 200.

Fluid statics, equations of continuity, momentum, and energy dimensional analysis and dynamic similitude. Applications to: flow meters; fluid pumps and turbines; viscous flow and lubrication; flow in closed conduits and open channels. Two-dimensional potential flow.

#### 311. Fluid Mechanics Laboratory (1 cr) Lab 2. Prereq: MECH/CIVE 310 or parallel.

Fluid mechanics experiments and demonstrations. Conservation principles; determination of fluid properties, velocity, pressure, and flow measurements; pipe flow; open channel flow; and instrumentation techniques.

#### 330. Mechanical Engineering Analysis (3 cr) Prereq: MATH 221; CSCE 150E, ENGM 325 and 373; MECH 200.

Conceptual modeling of mechanical engineering systems. Analytical exploration of engineering behavior of conceptual models. Case studies drawn from mechanical engineering problems.

#### [ES] 342. Kinematics and Dynamics of Machinery (3 cr I, II) Lec 3. Prereq: MECH 130 and ENGM 373.

Analysis of the motions of linkage and cam mechanisms. Methods of design of linkage and cam mechanisms. Gear theory.

#### 46 Senior electives may be either another mechanical engineering technical elective, another mechanical engineering design elective, or, with prior written approval of your adviser, a 300 or higher level engineering, science, or math course.

Analysis and design of ordinary and planetary gear trains. Determination of static and dynamic forces in machines. Balancing of machines. Flywheel design. Dynamics of cam mechanisms. Vibration of machines.

#### [IS] 343. Elements of Machine Design (3 cr I, II) Lec 3. Prereq: ENGM 325; IMSE 206; JGEN 200 or 300; MECH 342; METL 360; IMSE 321 or STAT 380 or parallel.

Design of machine elements under different conditions of loading. Design work includes a project of broader scope (done primarily out of class) requiring a breadth of knowledge. Failure theories for static and dynamic loading of bolts, springs, bearings, and shafts.

#### [ES] 350. Introduction to Dynamics and Control of Engineering Systems (3 cr II) Lec 3. Prereq: ENGM 373; ELEC 211; MATH 314 or parallel.

Unified treatment of the dynamics and control of engineering systems. Emphasis on physical aspects, formulation of mathematical models, application of various mathematical methods, and interpretation of results in terms of the synthesis and analysis of real systems.

#### 370. Manufacturing Methods and Processes (3 cr I) Prereq: METL 360; and ENGM 325.

Introduction to traditional and modern manufacturing processes and methods to include: foundry; forming processes; welding; metal removal theory and practices; modern manufacturing systems and automation; and economics of process selection.

#### [IS] 380. Mechanical Engineering Measurements (3 cr I, II) Lec 2, lab 2. Prereq: ELEC 231; JGEN 200 or 300; IMSE 321 or STAT 380 or parallel; MECH 350 and MECH 310, or parallel.

Theory, statistics, applications and design of mechanical engineering experiments.

#### 401/801. Elements of Nuclear Engineering (ENGR 401) (3 cr) Lec 3. Prereq: ENGR 300 or 301 or 310; MATH 208/208H; and PHYS 212/212H.

Survey of nuclear engineering concepts and applications. Nuclear reactions, radioactivity, radiation interaction with matter, reactor physics, risk and dose assessment, applications in medicine, industry, agriculture, and research.

#### 402/802. Turbomachinery (3 cr) Lec 3. Prereq: MECH 300 and MECH/CIVE 310.

Thermodynamic analysis and design of axial and radial flow turbines, compressors, and pumps. Fundamentals of the operating characteristics and performance parameters of turbomachines. Cavitation and blade element theory.

#### 403/803. Internal Combustion Engines (3 cr) Lec 3. Prereq: MECH 300 or equivalent.

Basic cycle analysis and engine types, fundamental thermodynamics and operating characteristics of various engines are analyzed, combustion processes for spark and compression-ignition engines, fuels, testing procedures, and lubrication systems are evaluated. Emphasis on the thermodynamic evaluation of the performance and understanding the basic operation of various engine types.

#### 404/804. Theory of Combustion (3 cr) Lec 3. Prereq: MECH 300 and 420/820.

Stoichiometric analysis of combustion processes. Energy transfer, flame propagation, and transformation velocities during combustion. Combustor applications and design considerations. Emission formation and methods of control.

#### 406/806. Air Conditioning Systems Design (3 cr) Lec 3. Prereq: MECH 300 or equivalent.

Application of thermodynamic and fluid dynamic principles to the design of air conditioning systems. Comprehensive design project is an integral part of the course.

#### 407/807. Power Plant Systems Design (3 cr) Lec 3. Prereq: MECH 300 or equivalent.

Application of thermodynamic and fluid dynamic principles to the design of Power Plants. Comprehensive design project is an integral part of the course.

#### 408/808. Heat Exchanger Design (3 cr) Lec 3. Prereq: MECH 300 or equivalent.

Design methodology for various heat exchangers employed in mechanical engineering. Introduction to computer-aided design as applied to heat exchangers. Practical exercises in actual design tasks.

**413/813. Aerodynamics** (3 cr) Lec 3. Prereq: MECH 200 and MECH/CIVE 310.  
Subsonic and supersonic air flow theory, dynamics of flight, performance parameters, rotoranalysis, and special topics.

**414/814. Compressible Flow** (3 cr) Lec 3. Prereq: MECH 300 and MECH/CIVE 310.  
Analysis of the flow of compressible fluids by means of the momentum equation, continuity equation, and the laws of thermodynamics and some application of thermodynamic laws to incompressible fluids.

**415/815. Two-Phase Flow** (3 cr) Lec 2, lab 3. Prereq: MECH/CIVE 310 and MECH 380, or parallel.  
Transport phenomena of homogeneous and heterogeneous types of mixtures such as solid-liquid, liquid-liquid, and liquid-gas. Properties of components and mixtures. Flow induced vibrations and parameter distributions. Optimization and design problems in multiphase systems.

**416/816. Engineering Acoustics** (3 cr) Lec 3. Prereq: MECH 310 and MATH 221/821.  
Transverse and longitudinal traveling waves. Acoustic wave equation of fluids. The reflection, transmission, radiation, reception, absorption, and attenuation of sound. Acoustic cavities and waveguides. Sound propagation in pipes, resonators and filters.

**[ES] 420/820. Heat Transfer** (3 cr I, III) Lec 3. Prereq: MECH 310.  
Heat transfer by conduction, convection, and radiation. Correlation of theory with experimental data and engineering design.

**424/824. Laser Material Processing with Compressible Flow Perspective** (3 cr) Lec 3. Prereq: Permission.  
Fundamentals of laser material processing. Laser material interactions from the compressible flow perspective. Analytical, semi-analytical, and numerical approaches.

**425/825. Solar Energy Engineering** (3 cr) Lec 3. Prereq: MECH 420 or permission.  
Conversion of solar energy into more useful forms with emphasis on environmental heating and cooling applications. Includes solar energy availability, solar collectors and design, solar systems and their simulation and solar economics.

**426/826. Heat Transfer at Nanoscales and in Ultrashort Time Domains** (3 cr I, II) Lec 3. Prereq: MECH 420.  
Heat transfer in nanoscale and nanostructured materials. Heat transfer in ultrafast laser materials processing.

**431/831. Computational Heat Transfer and Fluid Flow** (3 cr II) Lec 3. Prereq: MECH 310; MATH 314; MECH 420 or parallel.  
Finite difference methods for steady and transient diffusion and convection-diffusion problems. Finite volume technique for the solution of multi-dimensional fluid flow, and heat and mass transfer problems.

**436/836. Introduction to Continuum Biomechanics** (3 cr) Lec 3. Prereq: ENGM 373; MECH 310 and 420.  
Introduction to biomechanics. Basic anatomy, biomaterials, kinematics, dynamics, Viscoelasticity, bio-fluid mechanics, and bio-heat transfer.

**442/842. Intermediate Kinematics** (3 cr) Lec 3. Prereq: MECH 342.  
Analytical cam design. Geometry of constrained plane motion and application to the design of mechanisms. Analysis and synthesis of pin-jointed linkage mechanisms.

**444/844. Intermediate Dynamics of Machinery** (3 cr) Lec 3. Prereq: MECH 342 and 350.  
Fundamentals of vibration, vibration and impact in machines, balance of rotors, flexible rotor dynamics and instabilities, parametric vibration, advanced dynamics and design of cam mechanisms, and dynamics of flywheel.

**445/845. Mechanical Engineering Design Concepts** (3 cr) Lec 2, lab 3. Prereq: MECH 200, 342, 350, and MECH/CIVE 310.  
Development of design concepts. Introduction to synthesis techniques and mathematical analysis methods. Applications of these techniques to mechanical engineering design projects.

(ACE 10) **446. Mechanical Engineering Design I** (3 cr I, II, III) Lec/disc 2, rct 2. Prereq: MECH 300, 310, 343, 350.  
Synthesis, design, and a written report on two projects, plus a proposal for the students final design project in MECH 447. The two projects should span the general areas of mechanical

engineering developing breadth, resourcefulness, creativity and most importantly, the use of the design process. Guest lectures by practicing designers will be a part of the class when appropriate.

(ACE 10) **[IS] 447. Mechanical Engineering Design II** (2 cr I, II, III) Lab/rct 3. Prereq: MECH 446.  
Definition, scope, analysis, synthesis, and the design for the solution of a comprehensive engineering problem in any major area of mechanical engineering.

**450/850. Mechanical Engineering Control Systems Design** (3 cr) Lec 2, lab 2. Prereq: MECH 350.  
Applications of control systems analysis and synthesis for mechanical engineering equipment. Control systems for pneumatic, hydraulic, kinematic, electromechanical, and thermal systems.

**452/852. Digital Control of Mechanical Systems** (3 cr) Lec 2, lab 3. Prereq: MECH 450.  
Introduction to digital measurement and control of mechanical systems. Applications of analysis and synthesis of discrete time systems.

**453/853. Robotics: Kinematics and Design** (3 cr) Lec 3. Prereq: MECH 350.  
Robotics synthesize some aspects of human function by the use of mechanisms, sensors, actuators, and computers.

**455/855. Vehicle Dynamics** (3 cr) Lec 3. Prereq: MECH 343 and 350.  
Introduction to basic mechanics governing automotive vehicle dynamic acceleration, braking, ride, handling and stability. Analytical methods, including computer simulation, in vehicle dynamics. The different components and subsystems of a vehicle that influence vehicle dynamic performance.

**456/856. Dynamics of Internal Combustion Engines** (3 cr) Lec 3. Prereq: MECH 342 and 343.  
Basics of design of the internal combustion engines. Design of various engine parts such as pistons, connecting rods, valve trains, crankshafts, and the vibration dampers. Dynamics of the engine. The vibration of the crankshaft assembly and the valve train. Balancing of the engines.

**457/857. Mechatronic Systems Design** (3 cr) Lec 3, lab 2. Prereq: ELEC 231; MECH 350 or parallel. *Lab sessions allow for constructing mechatronic systems.*  
Theory, application, simulation, and design of systems that integrate mechanical, computer, and electronic components. Includes a comprehensive design project.

**[IS] 487. Thermal Fluids Laboratory** (2 cr I, II) Lab 4. Prereq: MECH 300 and 380; MECH 420/820 or parallel.  
Design, execution, and evaluation of physical experiments in the areas of thermodynamics, fluid mechanics, and heat transfer.

**488. Kinematics and Machine Design Laboratory** (2 cr I, II) Lec 1, lab 2. Prereq: MECH 342 and 343; MECH 380 or parallel.  
Design projects and physical experiments in the area of machine design and kinematics.

**498/898. Laboratory and Analytical Investigations** (1-6 cr, max 6 I, II, III) Lab.  
Investigation and written report of research into specific problem in any major area of mechanical engineering.

**499H. Honors Thesis** (1-3 cr) Conf and lab. Prereq: Senior standing in mechanical engineering; admission to the University Honors Program.  
Honors thesis research project meeting the requirements of the University Honors Program. Independent research project executed under the guidance of a member of the faculty of the Department of Mechanical Engineering which contributes to the advancement of knowledge in the field. Culminates in the presentation of an honors thesis to the department and college.

**\*810. Viscous Flow I** (3 cr II) Lec 3. Prereq: MECH 310, MATH 221.

**\*812. Viscous Flow II** (3 cr I, II) Lec 3. Prereq: MECH \*810; MATH 822 or 824.

**831. Finite Difference and Finite Element Methods in Mechanical Engineering** (3 cr, II) Lec 3. Prereq: MECH 310, 330. Prereq or parallel: MECH 420 or permission.

**855. Vehicle Dynamics** (3 cr) Lec 2, lab 3. Prereq: MECH 343, 350.

**\*890. Advanced Analysis of Mechanical Engineering Systems** (3 cr, I) Lec 3.

**899. Masters Thesis** (1-10 cr)

Refer to the Graduate Bulletin for 900-level courses.

## Metallurgical Engineering (METL)

**260. Elements of Materials Science** (3 cr I, II) Lec 3. Prereq: CHEM 109 or 111; PHYS 212; ENGM 223 or parallel.  
Relation of atomic, molecular, and crystal structure to the physical, mechanical, and chemical properties of metals, alloys, polymers, and ceramics.

**262. Materials Laboratory I** (1 cr I, II) Lab 2. Prereq: METL 260 or parallel.  
Engineering behavior of materials with emphasis on macroscopic properties; relationship between these properties, processing history, composition and microstructure. Introduction to the use of metallographic tools used in interpretation.

[ES] **360. Elements of Materials Science** (4 cr I, II) Lec 3, lab 2. Prereq: CHEM 109 or 111; PHYS 212; ENGM 223 or parallel.  
Relation of atomic, molecular and crystal structure to the physical, mechanical and chemical properties of metals, alloys, polymers and ceramics. Experience in investigation of properties of engineering materials.

**460/860. Mechanical Aspects of Materials** (3 cr) Lec 3. Prereq: ENGM 325 and METL 360, or equivalent.  
Emphasizes those principles at the atomistic or molecular level that relate mechanical properties and behavior of different classes of materials to their structure and environment.

**461/861. Materials Laboratory II** (3 cr) Lab 6. Prereq: METL 360. Application of scientific principles in the laboratory to the analysis of materials problems and selection of engineering materials.

**462/862. X-ray Diffraction** (3 cr) Lec 3. Prereq: PHYS 212. Principles of crystallography. Production and properties of X-rays. Interaction of X-rays with atoms and the nature of diffraction (direction and the intensities of diffracted beams). Diffraction patterns and intensity measurements.

**465/865. Applied Physical Metallurgy and Design** (3 cr) Lec 3. Prereq: METL 360 or equivalent.  
Principles of alloying; alloy selection; modification of the physical properties of structural alloys by thermal, mechanical, and chemical treatment; solidification and joining phenomena.

**466/866. Materials Selection for Mechanical Design** (3 cr) Lec 2, lab 2. Prereq: METL 360 and ENGM 325; or permission.  
Rational selection procedure for the most suitable materials for each particular mechanical design. Introduction of materials selection charts and the concept of materials performance indices. Case studies in mechanical design, taking materials selections, shape and process into account. Projects on materials selection at the design concept and the design embodiment stages.

**467/867. Principles of Powder Metallurgy** (3 cr) Lec 2, lab 3. Prereq: MECH 200; ENGM 325; METL 360 or equivalent.  
Basic principles of powder metallurgy, with emphasis on methods of producing metal powders, determination of their characteristics; the mechanics of powder compaction; sintering methods and effects; and engineering applications.

**468/868. Failure Analysis: Prevention and Control** (3 cr) Lec 2, lab 2. Prereq: ENGM 325; METL 360 or equivalent.  
Metallurgical tools for analysis of failures; types and modes of failures; sources of design and manufacturing defects. Case histories utilized to illustrate modes of failures and principles and practices for analysis. Design concepts and remedial design emphasized with these case studies. Several projects involving case analyses and design by students included.

**469/869. Physical Materials Systems** (3 cr) Lec 3. Prereq: PHYS 212 and METL 360.  
The principles controlling the formation of the structure of engineering materials. Phase diagrams, diffusion, interfaces and microstructures, solidification and diffusional transformation and diffusionless transformations.

**470/870. Thermodynamics of Alloys** (3 cr) Lec 3. Prereq: METL 360 and MECH 200, or equivalent; MATH 208 or parallel.

Materials thermodynamics of closed systems, introduction to liquid and solid solution alloys, relationship to gas phase, application to binary systems.

**471/871. Electron Microscopy of Materials** (3 cr) Lec 2, lab 2. Prereq: PHYS 212.

Introduction to electron beam instruments. Electron interactions with materials. Basic aspects of electron diffraction, image formation and spectrum generation by materials. Acquisition and analysis of images, diffraction patterns and spectral data. Resolution and sensitivity limits of electron probe methods. Practical experience in the use of electron microscopes for characterization of materials.

**472/872. Kinetics of Alloys** (3 cr) Prereq: METL 360 or equivalent; MATH 221/821.

Kinetics of gas-liquid-solid reactions in alloy systems; analysis of diffusion models applicable to such systems.

**473/873. Corrosion** (3 cr) Prereq: CHEM 109 or equivalent.

Fundamentals of corrosion engineering, underlying principles, corrosion control, and materials selection and environmental control.

**474/874. Extractive Metallurgy** (3 cr) Lec 3. Prereq: METL 360 and MECH 200 or equivalent.

Unit operations and processes utilized in production of ferrous, nonferrous, and refractory metals. Examples of production techniques for metal bearing ores, scrap metals, and domestic waste. Control of impurity and alloy content and their relationship to physical properties.

**498/898. Laboratory and Analytical Investigation** (1-6 cr, max 6 I, II, III) Lab.

Investigation and written report of research into specific problems in any major area of materials engineering.

**\*864. Thin Films and Surface Engineering** (3 cr) Lec 3. Prereq: Graduate standing in engineering, physics, chemistry, or permission.

**\*875. Glass and Ceramic Materials** (3 cr) Lec 3. Prereq: METL 860 and 870, or permission.

Refer to the Graduate Bulletin for 900-level courses.

## Requirements for the Interdisciplinary Bachelor of Science Degree

All of the sections below, except Section F, should lie within the framework of one of the engineering degree programs described in the preceding pages. The student can generally follow a regular engineering program for the first two years. The student should, however, work with his or her engineering adviser and an adviser in the interdisciplinary area in clarifying educational objectives.

A. 20 credits in calculus, differential equations and statistics:

**MATH 106, 107, 208, 221, and IMSE 321 or STAT 380**

B. 16 credits in science, including chemistry and physics with a two-course sequence in either chemistry or physics:

**CHEM 109, 110; PHYS 211; and elective or CHEM 111, PHYS 211, 212 and elective**

C. 10 credits in computer and/or communication skills:

**ENGR 400 (1 cr)**

**JGEN 200 or 300 (3 cr)**

**Computer Science elective (3-4 cr)**

**CSCE 150A, 150E, 155**

**Oral Communication elective (3 cr)**

**ALEC 102 or COMM 109 or 286**

D. 16 credits in engineering science courses including:

**Statics (3 cr)**

**ENGM 223**

**Electrical Engineering elective w/lab (4 cr)**

**ELEC 211/231 or ELEC 235**

**Engineering Economy (3 cr)**

**IMSE 206**

**Engineering Science electives (6 cr)**

E. 24 credits of engineering courses at the 300 (junior) level or above. Normally these courses should be concentrated in one discipline but may be taken in various areas when justified. These areas are agricultural, biological systems, chemical, civil, computer, electrical, industrial, and mechanical engineering, and engineering mechanics.

F\* 24 credits concentrated in a secondary (cross-disciplinary) area, giving a reasonable background for advanced work in that field. These courses are generally to be chosen from non-engineering fields. Any engineering course applied to this requirement must be applicable to the objectives of the secondary area. If these courses include more than 9 credits of engineering courses, approval must be obtained from the advisory committee.

G.\*18 credits in humanity/social science courses.

**Total Credit Hours Required: 128**

*\*Sections F and G must include three IS courses with one at the 400 level.*

This program does not provide the depth of engineering study associated with accredited engineering degrees and is normally not intended as a base for professional engineering practice or graduate study in engineering.

Students in the Interdisciplinary Program must apply and be admitted to the degree program by the department in which they plan to take their major course work in section E above.

## OMAHA CAMPUS

**Dean:** David H. Allen, Ph.D., P.E.

**Associate Dean:** John S. Thorp, M.S.

## Construction Systems— An Academic Unit of the Durham School

**Interim Unit Director:** Terrence Foster

**Professors:** Foster, Sires

**Associate Professors:** Bernstein, Bonsell, Goedert, Haggan, Holmes, Schwer

**Assistant Professors:** Cho, Morcous, Norton, Pedersen

## Construction Degrees

The Charles W. Durham School of Architectural Engineering and Construction offers the student a full range of professional opportunities in the construction industry from construction engineering to construction management. These two undergraduate degree options are described in further detail below. Additional information is available at [www.durhamschool.unl.edu](http://www.durhamschool.unl.edu).

## Construction Management

**Program Coordinator:** Charles Berryman

Construction is the largest and most diversified industry in the country, accounting for approximately 10 percent of the gross national product. The key professional in this vast enterprise is the “constructor”, a term given to the leaders and managers in the construction industry, having the responsibility for planning, scheduling, and building the projects designed by architects and engineers. These highly specialized efforts are indispensable in meeting the country’s growing need for new structures and environmental control projects.

Construction firms vary in size from large corporations to small proprietorships and partnerships. These are often classified according to the kind of construction work they do: general contractors, heavy and highway contractors, specialty contractors including mechanical and electrical, and residential builders and developers. Many firms engage in more than one category of work. Some larger companies incorporate the architectural and engineering design functions as part of their activity as a design/build firm. Collectively, Constructors build our entire man-made environment—buildings for housing, commerce, industry, and government; transportation services including highways, railroads, waterways, and airports; municipal service facilities and utilities, such as power plants and energy distribution systems; military bases and space center complexes. Thus the construction management field is broad and challenging, requiring a unique educational background for its professional practitioners.

Educational standards and criteria for construction education are established by the American Council for Construction Education (ACCE) which is the accrediting agency for construction education programs at all levels. The program at the University of Nebraska–Lincoln, having met these standards and criteria, is currently fully accredited by ACCE.

Although the range of construction activities appears wide and diverse, the general educational requirements for construction management are universal regardless of a particular firm’s area of specialization. Since construction is primarily a business enterprise, the graduate must have a sound background in business management and administration areas, as well as an understanding of the fundamentals of architecture and engineering as they relate to the project design itself as well as to the actual construction process in the field. Professional expertise lies in the fields of construction science, methods, and management. A working knowledge of structural design, mechanical and electrical systems, soil mass behavior, and construction equipment is also essential.

The construction management curriculum embraces a course of study in specifications, contractual agreements, labor relations, personnel management, materials, methods, and work analysis techniques. Technical and humanity electives provide for a well-rounded education that leads to a challenging career in the construction industry.

Students interested in obtaining a degree in civil engineering and construction management are advised to enroll in civil engineering. Because

some civil engineering courses require prerequisites beyond those required for similar construction management courses, students should obtain a civil engineering degree first. While in civil engineering, they will be advised by an adviser familiar with the construction management curriculum. After completing requirements for the civil engineering degree, the student will move to the construction management department to complete the requirements for the second degree in construction management.

## Requirements for the Degree of Bachelor of Science in Construction Management (Omaha campus)

Construction management students must pass all courses offered within the College of Engineering and all math and science courses with a grade of "C" or higher. Students must complete 28 semester hours or be classified as a sophomore before applying for admission to the construction management degree program. In addition, all seniors must take a program exit examination along with the American Institute of Constructors' Level I examination before graduation.

First Semester	Credits
CNST 1310 Intro to Construction Industry.....	1
ENGL 1160 English Composition II.....	3
GEOL 1170 Physical Geology.....	4
MATH 1950 Calculus I.....	5
	13
Second Semester	Credits
CNST 1120 Construction Communications .....	3
ENGR 3000 Creativity & Writing for Engineers .....	3
MATH 1530 Intro Applied Probability & Statistics.....	3
Behavior Social Science Electives .....	3
Science Elective w/lab PHYS 1050 & 1054(lab) Intro to Physics .....	4
	16
Third Semester	Credits
CET 2000 Surveying I .....	3
ECON 2200 Principles of Economics (micro) .....	3
CIVE 252 Material Testing Lab.....	1
CNST 2410 Construction Equipment & Methods I.....	3
CNST 2510 Construction Materials & Specifications....	3
EMEC 2200 Statics .....	3
	16
Fourth Semester	Credits
CNST 2420 Construction Equipment & Methods II.....	3
SPCH 2120 Argumentation & Debate.....	3
ECON 2220 Principles of Economics (macro) .....	3
EMEC 3240 Strength of Materials.....	3
Humanity/Social Science Elective.....	3
	15
Fifth Semester	Credits
ACCT 2010 Principles of Accounting I <sup>47</sup> .....	3
CNST 3310 Architectural Structures I.....	3
CNST 3050 Physical Environmental Systems II.....	3
CNST 378 Construction Estimating I.....	3
MGMT 3490 Management.....	3
Humanity/Social Science Elective.....	3
	16

Sixth Semester	Credits
CNST 3320 Architectural Structures II .....	3
CNST 3060 Physical Environmental Systems II.....	3
CNST 3790 Construction Estimating II.....	3
ISMG 2060 Engineering Economy I.....	3
Technical Elective.....	3
	15
Seventh Semester	Credits
LAWS 3930 Business Law Fundamentals .....	3
CNST 4800 Productivity & Human Factors in Construction .....	3
CNST 4760 Construction Cost Controls.....	3
CNST 485 Construction Project Scheduling & Control.....	3
Technical Elective.....	3
	15
Eighth Semester	Credits
CNST 4200 Professional Practice.....	3
CNST 4890 Senior Construction Project .....	3
Construction Technical Elective .....	3
Technical Elective.....	3
Humanity/Social Science Elective.....	3
	15
Total Credit Hours Required.....	121

## Construction Engineering

Program Coordinator: George Morcous

The construction engineering major integrates engineering, construction, and management courses. This program is designed for persons fulfilling the construction industry's need for licensed professional engineers. It resembles the construction management program but provides a greater emphasis on engineering, scientific, and technical courses so that requirements for licensure are met. The courses in construction engineering focus on the application of engineering principles to solve real world construction problems.

Under the stimulus of increasing demand for its services globally, the construction industry has expanded its technological capabilities pertaining to physical and informational systems. This demand gives the construction engineering graduate an unprecedented number of opportunities for employment and for pursuing an advanced degree.

Construction engineers participate in the preparation of engineering and architectural plans and specifications which they translate into finished projects, such as buildings, bridges, highways, power plants, or other constructed facilities. These projects involve thousands of details shared by a team of owners, architects, engineers, general contractors, specialty contractors, manufacturers, material suppliers, equipment distributors, regulatory bodies and agencies, labor resources, and numerous others. The constructor assumes responsibility for delivery of the completed project at a specified time and cost and also accepts associated legal, financial, and management obligations. Because of the broad scope of the construction engineer's project responsibility, he/she must assure the project's ability to be constructed as well as its ability to be operated and sustained.

The construction engineering student is required to enroll into a predetermined set of courses specifically designed for general construction education. Each student selects, with the approval of his/her adviser, a set of approved electives. The program outlined below leads to the bachelor of science degree in construction engineering. In addition to

the required classroom work, each new and transfer student must complete a minimum of 1,000 hours of professional practice during their enrollment in the program. These hours are monitored by the student's assigned program adviser.

## Requirements for the Degree of Bachelor of Science in Construction Engineering (Omaha campus)

First Semester	Credits
CHEM 1180 General Chemistry.....	3
CHEM 1184 General Chemistry Lab .....	1
CONE 1030 Intro to Construction.....	1
CSCI 1400 Intro to Computer Programming.....	3
MATH 1950 Calculus I.....	5
SPCH 1110 Public Speaking Fundamentals.....	3
	16
Second Semester	Credits
AE 2250 Construction Graphics & Processes (3) .....	3
MATH 1960 Calculus II .....	5
PHYS 1154 General Physics Lab (or PHYS-1164) .....	1
PHYS 2110 General Physics I.....	4
Humanity/Social Science Elective <sup>48</sup> .....	3
	16
Third Semester	Credits
CIVE 2210 Geometric Control Systems.....	3
EMEC 2230 Engineering Statics.....	3
ENGR 3000 Creativity & Writing for Engineers .....	3
MATH 1970 Calculus III .....	4
PHYS 2120 General Physics II.....	4
	17
Fourth Semester	Credits
IE 2060 Engineering Economics I .....	3
EMEC 3250 Mechanics of Elastic Bodies .....	3
CONE 2110 Construction Business & Management .....	3
EMEC 3730 Engineering Dynamics .....	3
MATH 2350 Differential Equations I .....	3
	15
Fifth Semester	Credits
CIVE 310 Fluid Mechanics .....	3
CIVE 341 Intro to Structural Engineering .....	4
CONE 3780 Construction Estimating I .....	3
CONE 2410 Construction Methods & Equipment .....	3
STAT 3800 Probability & Statistics .....	3
	16
Sixth Semester	Credits
CIVE 334 Intro to Geotechnical Engineering.....	4
CIVE 378 Materials of Construction .....	3
ECON 2200 Principles of Economics (Micro) .....	3
ELEC 2110 Elements of Electrical Engineering .....	3
Humanity/Social Science Elective <sup>48</sup> .....	3
	16
Seventh Semester	Credits
CONE 4760 Project Budgets & Controls .....	3
CIVE 4400 Reinforced Concrete Design I.....	3
CONE 4850 Construction Project Planning & Control .....	3
CONE 4140 Accident Prevention in Construction .....	3
Technical Elective .....	3
Humanity/Social Science Elective <sup>48</sup> .....	3
	18

<sup>48</sup> A minimum of 5 semester credit ours of social science electives and a minimum of 8 semester credit hours are humanities electives in addition to the 3 semester credit hour ECON 220 are required. A total of at least 16 semester credit hours of humanities/social science electives is required. A total of 2 humanities/social sciences electives must be cultural diversity courses, and at least one of those courses must meet the university's racial or Hispanic minority group diversity requirement.

<b>Eighth Semester</b>	<b>Credits</b>
CIVE 4410 Steel Design I .....	3
CONE 4890 Construction Capstone.....	3
LAWS 3930 Business Laws Fundamentals .....	3
Technical Elective (design) .....	3
Humanity/Social Science Electives <sup>48</sup> .....	3
Behavioral/Social Elective <sup>48</sup> .....	3
	<b>18</b>
<b>Total Credit Hours Required</b>	<b>127</b>

## Construction Engineering Technology (CET)

The Omaha Campus based program in Construction Engineering Technology is being eliminated.

## Fire Protection Technology (FPT) Program

The 66-semester-hour program leads to the associate degree in fire protection technology. It prepares individuals for those positions directly related to industrial and municipal fire protection. The program is jointly administered by the UNL College of Engineering and the UNL Extended Education and Outreach.

Courses in the program are intended for professional and volunteer fire-fighters, as well as other individuals involved with fire protection, hazardous materials management, and insurance investigation.

Please consult the University of Nebraska at Omaha Undergraduate Catalog or <http://extended.unl.edu/fire/index.shtml> for details.

## Pre-Engineering

Two years of course work applicable to bachelor of science degrees in agricultural, biological systems, chemical, electrical, industrial, and mechanical engineering is provided on the Omaha campus.

## Architectural Engineering Program

**Director:** Clarence Waters

**Professors:** Liu, Merkel, Yuill

**Associate Professors:** Tiller, Wang, Waters

**Assistant Professors:** Ahmad, Erdogmus, Li

Architectural engineering (AE) is a four-year undergraduate program of 129 credit hours.

Architectural engineering is the engineering design of buildings. Students have the option to specialize in the design of building structural systems, building mechanical and acoustical systems or building lighting and electrical systems. The first three years are common to all three options and include the same math and science courses common to all engineering programs.

In the second semester, the AE student begins the first of a four-course sequence of courses in architecture. The purpose of these courses is to familiarize the engineering student with the thought and design process of architects and to develop an appreciation of the architectural features of buildings. This exposure to architecture is an important part of the student's education. It develops creativity and gives the AE graduates a unique ability to work effectively with their professional colleagues in architecture.

The intent of the AE program is to develop both breadth and depth of knowledge in building systems. This is done by requiring the students to have a good understanding of all the systems that make up a building while also giving them a specialized education in their chosen option areas.

The breadth is provided in the 5th and 6th semesters, with all students taking courses in each of the areas of specialization. The depth is provided in the 7th and 8th semesters, where the students concentrate in one of the option areas.

The final year of the AE program features a senior design project. The project requires the student to practice all the design skills and understanding of building systems developed throughout the program. Students will work in teams to complete a significant building design in a manner which closely simulates professional practice.

The AE undergraduate program is followed by an integrated 36 credit-hour master of architectural engineering (MAE) degree. In the MAE program, students deepen their knowledge of the field of specialization they chose in the undergraduate program.

**Career Opportunities.** Architectural engineering graduates normally enter the building design industry and become registered professional engineers. There are only fourteen architectural engineering schools in the country, so there is a large unsatisfied demand for engineers educated in building design. This is especially true in Nebraska, the home of several large architectural/engineering design firms.

**Pre-Architectural Engineering on the Lincoln Campus.** Most of the courses in the first two years of architectural engineering are common to other engineering programs and are offered on both the Lincoln and the Omaha campuses. Students are encouraged to start and complete their program of study in Omaha but can arrange their programs of study so that they can spend the first two years of the architectural engineering program on the Lincoln campus. Those wishing to do so should consult the architectural engineering curriculum in the UNO Omaha Bulletin, and should consult with the program director, Dr. Waters, by phone at (402) 554-4958, or by email at [cwaters@unl.edu](mailto:cwaters@unl.edu).

Please consult the University of Nebraska at Omaha Undergraduate Catalog or [www.uno-maha.edu/](http://www.uno-maha.edu/) for curriculum details.

## Pre-Architectural Engineering

<b>Semester 1</b>	<b>Credits</b>
ARCH 106 Intro to Design .....	1
CHEM 109 General Chemistry I and Lab .....	4
CIVE 112 Intro to Civil Engineering .....	3
COMM 209 Intro to Public Speaking .....	3
MATH 106 Calculus I .....	5
MECH 130 Intro to CAD .....	2
	<b>18</b>

<b>Semester 2</b>	<b>Credits</b>
CSCE 150A Intro to Problems with Computers .....	4
MATH 107 Calculus II .....	5
PHYS 211 General Physics I .....	4
PHYS 221 General Physics I Lab .....	1
PSYC 181 Intro to Psychology .....	4
	<b>18</b>

<b>Semester 3</b>	<b>Credits</b>
ENGM 223 Statics .....	3
ELEC 211 Elements of Electrical Engineering .....	3
MATH 208 Calculus III .....	4
PHYS 212 General Physics II .....	4
PHYS 222 General Physics II Lab .....	1
	<b>15</b>

<b>Semester 4</b>	<b>Credits</b>
ENGM 325 Mechanics of Elastic Bodies .....	3
ENGM 373 Engineering Dynamics .....	3
MATH 221 Differential Equations for Engineers .....	3
MECH 200 Engineering Thermodynamics .....	3
STAT 380 Statistics & Applications .....	3
	<b>15</b>

- Semesters 5-8 completed at the University of Nebraska at Omaha.
- Other UNL courses that may be used in the Architectural Engineering Program at the University of Nebraska at Omaha are:
  - CIVE 341, 441
  - JGEN 200
  - MECH 310

## Courses of Instruction (AREN)

**102. Sustainable Buildings** (UNO AE1020) (3 cr) Lec 3. Introduction to building systems. Sustainable design and construction. The United States Green Building Council's rating system. Sustainable building sites, water efficiency, energy performance, building commissioning, building and/or material reuse, sustainable materials, indoor environmental quality, and innovations in sustainable design and construction.

**412. Building Energy II: Primary and Secondary Systems** (UNO AE4120) (3 cr) Lec 3. (UNO) Prereq: CIVE/MECH 310/(UNO) 3100; MECH 420/820/(UNO) MENG 4200; and (UNO) AE 3100. Analysis and design of building air distribution systems, fans, pumps, piping, space air diffusion, chillers, and boilers.

**415. HVAC Design** (UNO AE4150) (4 cr) Lec 4. (UNO) Prereq: AREN 412/AE 4120. AREN 415/(UNO) AE 4150 is the first option-specific mechanical systems design course and is to be taken during the fourth year of the BSAE program. Develop and design the mechanical system for an actual building, from the programming phase to the final construction documents.

**420/820. Lighting II: Theory, Design and Application** (UNO AE 4200) (3 cr) Lec 3, lab 2. Prereq: AREN 320 or (UNO) AE 3200. AREN 420/820 lab sessions include photometric measurements and computer applications. Design and analysis of lighting systems; the integration between the lighting design process and the technical foundations for building lighting; design criteria; lighting design procedures lighting modes and subjective effects; and calculation tools.

**425. Lighting Design** (UNO AE4250) (4 cr) Lec 4. (UNO) Prereq: AREN 420/(UNO) AE 4200 or permission. AREN 425/(UNO) AE 4250 requires the initiation of the design process, proceeding in a self-directed manner through intermediate steps, and producing professional lighting design solutions.

Advanced design and analysis of lighting systems. Application of the lighting design process for advanced interior applications such as multimedia facilities, and outdoor applications such as sports lighting.

## Department of Civil Engineering

**Chair:** Mohamed F. Dahab

**Associate Chairs:** Bruce Dvorak, John Stansbury

**Professors:** Azizinamini, Dahab, Moore, Nowak, Rilett, Sicking, Tadros, Tuan, Zhang

**Associate Professors:** Admiraal, Dvorak, Jones, Khattak, Krause, Moussavi, Rohde, Stansbury

**Assistant Professors:** Bartelt-Hunt, Guo, Irmak, X. Li, Y. Li, Kim, Sharma

The Department of Civil Engineering offers a complete undergraduate program on both the Omaha and Lincoln campuses. Courses offered in the department are identical on the two campuses. Those courses outside the department are very similar. See "Department of Civil Engineering" on page 300 under the Lincoln Campus section for descriptions, or consult the University of Nebraska at Omaha Undergraduate Catalog or [www.uno-maha.edu](http://www.uno-maha.edu) for curriculum details.

## Department of Computer and Electronics Engineering

**Chair:** Bing Chen

**Professors:** Chen, Sharif, Wysocki

**Associate Professors:** Nguyen, Peng, Sash

**Assistant Professors:** Ci, Jang, Liu

**Senior Lecturers:** Detloff, Gilmore

The mission of the Department of Computer and Electronics Engineering (CEEN) at the University of Nebraska is to develop and maintain programs of excellence in teaching and research which meet the educational needs of its constituents, which will support the state of Nebraska in its development as a leading center for high-technology computer/electronics/telecommunications industry and which will support national needs for well educated computer and electronics engineering professionals. To fulfill this mission, the department offers the degrees of bachelor of science in computer engineering and bachelor of science in electronics engineering as well as several graduate programs. The faculty takes pride in its high level of interaction with both undergraduate and graduate students.

Two engineering majors are offered in the Department of Computer and Electronics Engineering. They are computer engineering and electronics engineering. Job opportunities for both majors are available in industry, public agencies, consulting, and private practice.

### Computer Engineering

The CEEN department's Program Educational Objectives for the computer engineering program are that our graduates will be prepared to:

- Be employed in industries doing
  - Design with microprocessors/embedded systems
  - Digital design
  - Hardware/software integration
  - Computer architecture and parallel processing
- Function on teams with multidisciplinary aspects
- Participate in lifelong learning
- Exhibit competency in written and oral communications
- Continue their formal education in graduate programs
- Have an ethical approach to engineering practice.

These program educational objectives have been developed with input from the program educational objectives constituency group consisting

of employers (including the CEEN Industry Advisory Board), graduates of the program and faculty of the department.

The 133 credit hour program in computer engineering leads to the bachelor of science degree in computer engineering. Twenty-three hours of mathematics, 9 hours of physics, 12 hours of computer science, and 3 hours of mathematics or physical science electives complement the required 44 hours of work in the computer engineering area. Nine hours in written and oral communications, 18 hours in the humanities and social sciences, and 15 hours of technical and free electives provide the opportunity for the student to acquire a general educational background and gain the cultural attributes associated with a university education.

The individual holding this degree will have advanced knowledge in his or her field of engineering interest and in addition will have a university educational background involving mathematics, the physical sciences, and the humanities and social sciences. Completion of this curriculum will enable the graduate to enter employment in positions involving computer hardware design and applications, computer software design and development, microcomputer based applications, and computer networking. The program also leads to the preparation for graduate work in computer engineering, computer science, or electrical engineering.

### Electronics Engineering

The CEEN department's Program Educational Objectives for the electronics engineering program are that our graduates will be prepared to:

- Be employed in industries doing work in one or more of the following areas:
  - Communication systems
  - Telecommunication networks
  - Analog, digital and microprocessor systems
  - Hardware/software integration
- Exhibit competency in written and oral communications
- Function on teams with multidisciplinary aspects
- Understand the social environment in which electronics engineering is responsibly and ethically practiced and the life-long requirements of continued learning demanded by the profession.

These program educational objectives have been developed with input from the program educational objectives constituency group consisting of employers (including the CEEN Industry Advisory Board), graduates of the program and faculty of the department.

The 133 credit-hour program in electronics engineering leads to the bachelor of science degree in electronics engineering. Twenty hours of mathematics, 9 hours of physics, and 3 hours of mathematics or physical science electives complement the required 58 hours of work in the electronics engineering area. Nine hours in written and oral communications, 18 hours in the humanities and social sciences, and 16 hours of technical and free electives provide the opportunity for the student to acquire a general educational background and gain the cultural attributes associated with a university education.

The individual holding this degree will have advanced knowledge in his or her field of engineering interest and in addition will have a university educational background involving mathematics, the physical sciences, and the humanities and social sciences. The curriculum has a strong focus in telecommunications engineering. Completion of this program will enable the graduate to enter employment in positions involving telecommunications engineering design, analog circuit design, telecommunications network performance analysis, and technical management of telecommunications networks. The program also leads to the preparation for graduate work in electronics engineering or electrical engineering.

### General Requirements

The following sections apply to both the computer engineering program and the electronics engineering program.

**Advisement.** Upon entry into the curriculum, each student will be assigned a faculty academic adviser. It is required that the student meet with the adviser prior to each class registration period and that all courses to be applied toward the degree be selected with the advice and approval of the adviser.

Students are expected to have their academic records reviewed and to obtain approval from the Department prior to application to the University registrar for award of the degree in order to insure that all curricular requirements will be satisfied by the time of intended graduation.

**Curriculum.** Because of the rapid developments in the fields of computer engineering and electronics engineering, the curricular requirements are continually reviewed and upgraded to reflect technological advances. Contact the department for information on any changes that are currently in effect but not listed in this bulletin. Currently enrolled students are expected to modify their programs to take advantage of such revisions. Students who do not maintain continuous progress toward the degree through enrollment in applicable course work will be considered as new students upon reentering the computer or electronics engineering curricular sequence and will be subject to the requirements of the curriculum current at the time of their reentry. Certain courses may not be valid as prerequisites or as credit toward the degree after two academic years; the student's academic adviser should be consulted regarding applicability.

The Department maintains a high standard of excellence in meeting its objective of providing the student with extensive experience in the fields of computer engineering and electronics engineering. The development of both computer hardware and software and the knowledge of the interrelationship of these areas is enhanced through the extensive use of laboratory equipment. All course work must be of C grade level or higher to be credited toward graduation requirements or to be valid as a prerequisite for another course. The applicable University bulletins must be followed for the areas of humanities and social sciences to insure that such enrollments satisfy the campus general education requirements.

**Senior Thesis.** The capstone senior thesis requirement provides a unique and challenging opportunity for the undergraduate student to demonstrate his/her ability to apply the knowledge gained in the course work sequence to the planning, design, execution, testing, and reporting of a significant project in the applications of engineering principles. The initiative and responsibility expected of the student executing the senior thesis parallel the expectations of the employer of the program graduate. After faculty approval of the thesis topic, each student is assigned to a faculty Senior Thesis Adviser who will supervise the execution of the work.

**Electives.** Computer engineering and electronics engineering courses which are described in the catalog but are not shown as requirements in the semester sequences are offered as the need arises to provide co-interest areas wherein the students may broaden their background in the applications of computer engineering or electronics engineering. In addition, appropriate specified technical electives will be selected to augment the student's particular area of interest. The applicability of transfer course work with engineering content toward credit in the curriculum is determined on a case-by-case basis by the Department.

The credit hours in the curriculum designated as free electives are those courses that the student may choose to enhance personal objectives in his/her academic plan. Free electives must be selected with the approval of his/her departmental adviser and may not duplicate the content of curricular requirements nor be of a remedial nature.

**Special Interest Areas.** Opportunities are provided for the development of areas of special interest through enrollment in the Individual Study in Computer and Electronics Engineering courses which are offered at the freshman through senior level for the student who may wish to develop a topic under the guidance of a department faculty member. Enrollment is by permission after the department chair has approved a written proposal. Special Topics in Computer and Electronics Engineering offered by the Department as the need arises to cover topics needing emphasis as a result of the rapidly developing field of computer engineering and electronics engineering. Academic advisers should be consulted regarding the particular topics to be covered and the necessary prerequisites for each offering of this course.

Students who expect to continue their education at the graduate level after the award of the baccalaureate degree should consult their adviser regarding course selections that would enhance that objective.

Students are encouraged to develop their professional and leadership potential through participation in student chapters of related professional organizations and in University extracurricular activities. Participation in the University Honors Program is encouraged for those who qualify.

Please consult the University of Nebraska at Omaha Undergraduate Catalog or [www.ceen.unomaha.edu/](http://www.ceen.unomaha.edu/) for curriculum details.

## Courses of Instruction (CEEN)

**103. Computer and Electronics Engineering Fundamentals** (UNO-CEEN 1030) (4 cr) Lec 3, lab 3. Prereq: MATH 106/108H or (UNO) MATH 1950, or parallel.

Introduction to DC circuit analysis and digital logic. Ohm's and Kirchoff's laws, mesh and nodal analysis, Boolean algebra, logic gates, minimization, counters, and flip-flops. Uses of computer based resources for data analysis and report generation. Use of Internet to locate and retrieve engineering resources.

**106. Microprocessor Applications** (UNO-CEEN 1060) (3 cr) Lec 2, lab 3. Prereq: CEEN 103 or (UNO) CEEN 1030; CSCE 155 or (UNO) CIST 1400.

Introduction to assembly language programming of 80 x 86 microprocessors, assemblers, and debugging tool utilization. Microprocessor system hardware components, control signals, and using assembly language with C/C++.

**192. Individual Study in Computer and Electronics Engineering I** (UNO-CEEN 1920) (1-3 cr, max 3) Ind. *CEEN 192/1920 requires a CEEN departmentally approved proposal.*

Individual study in a selected computer or electronics engineering area under the supervision and guidance of a computer and electronics engineering faculty member.

**194. Special Topics in Computer and Electronics Engineering I** (UNO-CEEN 1940) (1-4 cr, max 4) (UNL, UNO) Lec. Prereq: Freshman standing.

Special topics in the emerging areas of computer and electronics engineering which may not be covered in other courses in the computer and electronics engineering curriculum.

**213. Electrical Circuits I** (UNO-CEEN 2130) (4 cr) Lec 4. Prereq: CEEN 103 or (UNO) CEEN 1030; CSCE 225 or (UNO) CEEN 2250; MATH 221/821 or (UNO) MATH 3550, or parallel. Electrical circuit theory, Kirchoff's and Ohm's laws, circuit analysis theorems, Norton and Thevenin equivalence. The analysis of resistor circuits, with capacitors and inductors, in DC and AC steady state. Transients and variable frequency responses are studied, including computer solutions to circuit problems.

**214. Electrical Circuits II** (UNO-CEEN 2140) (3 cr) (UNL, UNO) Lec 3. Prereq: CEEN 213 or (UNO) CEEN 2130; CEEN 218 or (UNO) CEEN 2184; (UNO) MATH 2050 or parallel. Introduction to the analysis of electrical circuits in sinusoidal steady states. The concepts of impedance, phasors, power, frequency response, resonance, magnetic circuits, and two-port networks. Transform techniques for circuit analysis.

**218. Electrical Circuits Laboratory** (UNO-CEEN 2184) (1 cr) (UNL, UNO) Lab 3. Prereq: CEEN 213 or (UNO) CEEN 2130 or parallel. *Ceen 218/(UNO) 2180 is a lab to accompany CEEN 213/ (UNO) 2130.*

The use of laboratory tools for measurement and verification of electrical concepts. Experiments using both passive and semiconductor devices at audio frequencies. Analysis verification with computer simulation.

**222. Electronic Circuits I** (UNO-CEEN 2220) (4 cr) (UNL, UNO) Lec 3, lab 1. Prereq: CEEN 213 or (UNO) CEEN 2130; CEEN 218 or (UNO) CEEN 2184.

Analysis and design of modern electronic circuits. Diode circuits, bipolar and field effect transistor switching and amplifier circuits, and operational amplifier circuits.

**223. Electronic Circuits Lab I** (UNO-CEEN 2234) (1 cr) Lec 3. Prereq: CEEN 218 or (UNO) CEEN 2184; Parallel CEEN 222 or (UNO) CEEN 2220. *CEEN 223/2230 is a laboratory to accompany CEEN 222/2220.*

Circuits with diodes, bipolar transistors, field effect transistors, and operational amplifiers.

**224. Introduction to Signal Processing** (UNO-CEEN 2240) (4 cr) Lec 3, lab 3. Prereq: CEEN 106 or (UNO) CEEN 1060; CSCE 155 or (UNO) CIST 1400; MATH 107/107H or (UNO) MATH 1960.

The use of mathematical and digital computation tools key to engineering applications. Auditory and visual senses are used in the presentation and study of sinusoidal signals, sampling, frequency response and filtering theory.

**225. Computer and Electronic Engineering Seminar** (UNO-CEEN 2250) (1 cr) Lec 1. Prereq: CEEN 103 or (UNO) CEEN 1030.

Overview of computer, electronics and telecommunication fields, and professional careers available to graduates. Professionalism, ethics, and the need for lifelong learning experiences.

**292. Individual Study in Computer and Electronics Engineering II** (UNO-CEEN 2920) (1-3 cr, max 3) Ind. Prereq: Sophomore standing. *CEEN 292/2920 requires a CEEN departmentally approved proposal.*

Individual study in a selected computer or electronics engineering area under the supervision and guidance of a computer and electronics engineering faculty member.

**294. Special Topics in Computer and Electronics Engineering II** (UNO-CEEN 2940) (1-4 cr, max 4) (UNL, UNO) Lec. Prereq: Sophomore standing.

Special topics in the emerging areas of computer and electronics engineering which may not be covered in other courses in the computer and electronics engineering curriculum.

**310. Digital Design and Interfacing** (UNO-CEEN 3100) (3 cr)

Lec 2, lab 3. Prereq: CEEN 222 or (UNO) CEEN 2220; CSCE 223 or (UNO) CEEN 2234; CEEN 313 or (UNO) CEEN 3130, or parallel. *Lab exercises in CEEN 310/3100 provide practical experience with design tools and the design process.*

Digital design is studied from both the circuit and system perspectives. The structure and analysis of digital integrated circuits, interface signal integrity, and software simulation.

**313. Switching Circuits Theory** (UNO-CEEN 3130) (4 cr) Lec 3, lab 3. Prereq: CEEN 106 or (UNO) CEEN 1060.

Combinational circuit analysis and design. State machine analysis and design. Synchronous/clock mode circuits and asynchronous sequential circuits. Minimization, race, and hazard elimination are covered. Circuits are implemented in discrete logic and in CPLD and FPGA devices. VHDL hardware description language is used to describe circuits. Circuits are implemented in discrete logic and in CPLD/FPGA devices.

**325. Communications Systems** (UNO-CEEN 3250) (4 cr) Lec 3, lab 3. Prereq: CEEN 222 or (UNO) CEEN 2220; CEEN 223 or (UNO) CEEN 2234; STAT/MATH 380 or (UNO) STAT 3800, or parallel.

Relevant communications systems; principles of transmissions and reception; amplitude; frequency and phase modulation. Sampling theorem, pulse-code modulation and delta modulation.

**328. Applied Fields and Lines I** (UNO-CEEN 3280) (3 cr) Lec 3. Prereq: MATH 208/208H or (UNO) MATH 1970; PHYS 212/212H or (UNO) PHYS 2126.

Transmission lines including discontinuities, different termination, and matching methods. Application of vector analysis to Maxwell's equations. Uniform plane waves including reflection/transmission. S-parameters. Principles of antennas. LW, MW, SW, USW propagation.

**329. Applied Fields and Lines II** (UNO-CEEN 3290) (3 cr) Lec 3. Prereq: CEEN 328 or (UNO) CEEN 3280.

Metallic wave guides with rectangular, circular, and coaxial cross section, antennas, free space, propagation in free space, applications.

**352. Electronic Circuits II** (UNO-CEEN 3520) (4 cr) Lec 3, lab 3. Prereq: CEEN 222 or (UNO) CEEN 2220; CEEN 223 or (UNO) CEEN 2234; MATH 221/221H/821 or (UNO) MATH 3550, or parallel.

Operational amplifier circuit design and analysis, feedback and stability. Design and analysis of large signal power amplifiers. Other integrated devices such as regulators, comparators, Schmitt triggers, oscillators and active filters are also presented.

**355. Signals and Linear Systems** (UNO-CEEN 3550) (3 cr) Lec 3. Prereq: CEEN 214 or (UNO) CEEN 2140; MATH 208/208H or (UNO) STAT 3800.

Continuous and discrete time representations of signals. System modeling and analysis using differential and difference equations. Fourier, Laplace, and Z transforms. State description of continuous and discrete time transfer functions. Primary mathematical tools used in the analysis of continuous and discrete time systems.

**361. Data and Telecommunications Transceivers** (UNO-CEEN 3610) (4 cr) Lec 3, lab 3. Prereq: CEEN 325 or (UNO) CEEN 3250; CEEN 352 or (UNO) CEEN 3520; parallel CEEN 328 or (UNO) CEEN 3280.

Noise and signal distortions in communication systems, impedance matching techniques, high frequency measurement techniques, design of high frequency amplifiers and oscillators, PLL and frequency synthesizers, data synchronization and multiplexing techniques. Antennas and their arrays.

**392. Individual Study in Computer and Electronics Engineering III** (UNO-CEEN 3920) (1-3 cr, max 3) Ind. Prereq: Junior standing. *CEEN 392/3920 requires a CEEN departmentally approved proposal.*

Individual study in a selected computer or electronics engineering area under the supervision and guidance of a computer and electronics engineering faculty member.

**394. Special Topics in Computer and Electronics Engineering III** (UNO-CEEN 3940) (1-4 cr, max 4) (UNL, UNO) Lec. Prereq: Junior standing.

Special topics in the emerging areas of computer and electronics engineering which may not be covered in other courses in the computer and electronics engineering curriculum.

**424/824. Digital Signal Processing** (UNO-CEEN 4240/8246) (3 cr) Lec 3. Prereq: CEEN 355 or (UNO) CEEN 3550.

The temporal and spectral analysis of digital signals and systems, the design of digital filters and systems, and advanced systems including multi-rate digital signal processing techniques.

**433/833. Microprocessor System Design** (UNO-CEEN 4330/8336) (4 cr) (UNL, UNO) Lec 3, lab 3. Prereq: CEEN 310 or (UNO) CEEN 3100; CEEN 328 or (UNO) CEEN 3280, or parallel.

Microprocessor based systems: architecture; design; and interfacing. Hardware topics: memory design; input/output ports; serial communications; and interrupts. Software topics: generating assembly ROM code; assembly/C firmware generation; and designing device drivers.

**436/836. Embedded Microcontroller Design** (UNO-CEEN 4360/8366) (4 cr) (UNL, UNO) Lec 3, lab 3. Prereq: CEEN 433/833 or (UNO) CEEN 4330/8330; STAT/MATH 380 or (UNO) STAT 3800; CSCE 451/851 or (UNO) CSCI 4500, or parallel.

Microcontroller architecture: design, programming, and interfacing for embedded systems. Timing issues, memory interfaces, serial and parallel interfacing, and functions for common microcontrollers.

**437/837. Parallel and Distributed Processing** (UNO-CEEN 4370/8376) (3 cr) Lec 3. Prereq: CEEN 436/836 or (UNO) CEEN 4360/8366.

Parallel and distributed processing concepts, principles, techniques, and machines.

**451/851. Introduction to VLSI System Design** (UNO-CEEN 4510/8516) (3 cr) Lec 3. Prereq: CEEN 310 or (UNO) CEEN 3100. The concepts, principles, and methodology at all levels of digital VLSI system design and focused on gate-level VLSI implementation.

**452/852. Introduction to Computer-Aided Digital Design** (UNO-CEEN 4520/8526) (3 cr) Lec 3. Prereq: CEEN 310 or (UNO) CEEN 3100.

The concepts, simulation techniques and methodology in computer-aided digital design at system and logic levels.

**463/863. Digital Communications Media** (UNO-CEEN 4630/8636) (4 cr) Lec 3, lab 3. Prereq: CEEN 355 or (UNO) CEEN 3550; CEEN 361 or (UNO) CEEN 3610.

The transport of bit streams from one geographical location to another over various physical media such as wire pairs, coaxial cable, optical fiber and radio waves. Transmission characteristics, media interfacing, delay, distortion, noise and error detection and correction techniques.

**466/866. Telecommunications Engineering I** (UNO-CEEN 4660/8666) (4 cr) Lec 3, lab 3. Prereq: CEEN 361 or (UNO) CEEN 3610; CEEN 463/863 or (UNO) CEEN 4630/8636.

Standard telecommunications protocol, architecture of long distance integrated data networks, local area networks, wide area networks, radio and satellite networks. Network management, Internet-working, system modeling and performance analysis.

**471/871. Computer Communication Networks** (UNO-CEEN 4710/8716) (4 cr) Lec 3, lab 3. Prereq: CEEN 325 or (UNO) CEEN 3250.

High-speed access control protocols, routing protocols, traffic management, and network topologies. Giga-bit Ethernet, ATM, and TCP/IP. Performance modeling and simulation techniques.

**473/873. Mobile and Personal Communications** (UNO-CEEN 4730/8736) (4 cr) Lec 3, lab 3. Prereq: CEEN 325 or (UNO) CEEN 3250.

Concepts on mobile and personal communications. Modulation techniques for mobile radio, equalization, diversity, channel coding, and speech coding.

**475/875. Satellite Communications** (UNO-CEEN 4750/8756) (4 cr) Lec 3, lab 3. Prereq: CEEN 325 or (UNO) CEEN 3250.

The fundamental concepts of satellite communications. Orbita, launching satellites, modulation and multiplexing, multiple access, earth stations, coding interference and special problems in satellite communications.

**476/876. Wireless Communications** (UNO-CEEN 4760/8766) (3 cr) Lec 3. Prereq: Permission.

The fundamental concepts of wireless communications. Basic communications concepts such as multiple access and spectrum. Propagation, radio standards and Internet-working. Current issues in wireless communications.

**479/879. Optical Fiber Communications** (UNO-CEEN 4790/8706) (4 cr) Lec 3, lab 3. Prereq: CEEN 463/863 or (UNO) CEEN 4630/8636.

Fundamentals of lightwave communication in optical fiber waveguides, physical description of fiber optic systems. Properties of the optical fiber and fiber components. Electro-optic devices: light sources and modulators, detectors and amplifiers; optical transmitter and receiver systems. Fiber optic link design and specification; fiber optic networks.

**492/892. Individual Study in Computer and Electronics Engineering IV** (UNO-CEEN 4920/8926) (1-3 cr, max 3) Ind. Prereq: Senior standing. *CEEN 492/892/8926 requires a CEEN departmentally approved proposal.*

Individual study in a selected computer or electronics engineering area under the supervision and guidance of a computer and electronics engineering faculty member.

**494/894. Special Topics in Computer and Electronics Engineering IV** (UNO-CEEN 4940/8946) (1-4 cr, max 4) (UNL, UNO) Lec. Prereq: Senior standing.

Special topics in the emerging areas of computer and electronics engineering which may not be covered in other courses in the computer and electronics engineering curriculum.

**\*498. Senior Thesis** (UNO-CEEN 4980) (3 cr) Ind. Prereq: CEEN 310 or (UNO) CEEN 3100; CEEN 361 or (UNO) CEEN 3610; CEEN 433/8336 or (UNO) CEEN 4330/8330; and JGEN 300. *CEEN 498/4980 requires a CEEN departmentally approved proposal.*

Capstone design course for the B.S. in computer engineering and electronics engineering.



# Hixson-Lied College of Fine and Performing Arts

**Giacomo M. Oliva**, Ed.D., Dean and Professor of Music

**Christin J. Mamiya**, Ph.D., Associate Dean and

Professor of Art History

**Sara Fedderson**, Advising Coordinator

**Faye Kopke**, Admissions Coordinator

## About the College

The Hixson-Lied College of Fine and Performing Arts is comprised of the Department of Art and Art History, the School of Music including the Dance Division, the Johnny Carson School of Theatre and Film, and the Mary Riepma Ross Media Arts Center. In addition, the Great Plains Art Museum, the Lentz Center for Asian Culture, the Lied Center for the Performing Arts, and the Sheldon Museum of Art are affiliated with the College.

The College offers a wide range of degrees: the bachelor of arts, the bachelor of fine arts, the bachelor of music, and the bachelor of music education. The programs in the College provide students with both a general liberal education, as well as specialized training in their chosen field. Many of the degrees offered by the College are professionally oriented, and prepare students to enter an occupation directly or to attend graduate or professional schools. Students may major in art, art history, music, music education, theatre arts, or dance.

Each of the academic units in the Hixson-Lied College of Fine and Performing Arts is accredited by the national accrediting organization in the field: the National Association of Schools of Art and Design, the National Association of Schools of Music, and the National Association of Schools of Theatre.

The Hixson-Lied College of Fine and Performing Arts is committed to facilitating the interaction between the many arts entities on campus, and to providing students with a high quality education and many opportunities to participate in cultural activities.

## Mission

The College nurtures creative, artistic activity and scholarship; educates students to a high level of accomplishment as artists, teachers, and scholars; and enriches the education of all students through the study and practice of the arts. The College provides the citizens of Nebraska with opportunities to enjoy, appreciate, and participate in the arts through outreach programs. Through its creative activity, research, and exhibitions it contributes to the arts nationally and internationally. In fulfillment of its mission, the College:

- provides comprehensive educational programs of study in the arts at the undergraduate and graduate levels.
- fosters creative activity and scholarly research in the arts.
- provides professional preparation for artists, historians, theorists, and arts educators.
- sustains a strong commitment to liberal education for all UNL students through its course offerings and special programs.
- provides opportunities for the performance, collection, preservation, publication, and exhibition of important works.

- develops supportive and knowledgeable audiences and patrons for the arts.
- maintains a strong interdisciplinary and continuing education emphasis by creating comprehensive cultural and educational opportunities.
- supports and contributes to collaborative multicultural and intercultural programs.
- serves the entire state and region as an important artistic and cultural resource through its exhibitions, performances, and educational outreach programs.
- provides leadership for the understanding and development of the arts in the state and nation.

## Academic Advising and Chief Advisers

Primary academic advising for students in the Hixson-Lied College of Fine and Performing Arts is provided by the student's home department or school. A faculty adviser is assigned by the department or school to help students plan their academic careers and select appropriate courses. Incoming freshmen are counseled during New Student Enrollment by specially trained advisers. Students are responsible for meeting with their academic advisers on a regular basis so that timely and appropriate counsel can be received. Students should contact their department or school office for more information on advising policies and procedures. The Dean's Office is also available upon referral, but the department or school is the principal source for advising information.

Students wishing to include credits transferred from another institution in their program of study must submit a transcript to the UNL Office of Admissions. The Dean's Office will complete an *Evaluation of Transfer Credit* form upon receipt of *Courses Presented for Transfer* from the Office of Admissions. Copies of the *Evaluation of Transfer Credit* are distributed to the student, the student's advising file in his or her home department or school, and the Office of Registration and Records. **Students who have previously had transfer credits evaluated in another UNL college must have the credits reevaluated upon entering the Hixson-Lied College of Fine and Performing Arts.**

The applicability of transfer credits toward major requirements is determined by the department or school offering the major. Students who wish to apply transfer credits toward major requirements or who wish to request any waiver or substitution of requirements must complete a *Request for Waiver or Substitution* form. The *Request for Waiver or Substitution* must first be approved by the appropriate Chief Adviser (listed below) and department chair, before being forwarded to the Dean's Office for final approval. Requests for waiver or substitution involving courses not offered by the student's home department or school must have the approval (on the *Request for Waiver or Substitution* form) of the appropriate UNL department.

#### Art

Shelley Fuller  
211 Woods Art Building

#### Art History

Shelley Fuller  
211 Woods Art Building

#### Dance

Susan Levine  
208 Mabel Lee Hall

#### Music

Peter Lefferts  
368 Westbrook

#### Music Education

Robert Woody  
354 Westbrook

#### Theatre Arts

Janice Stauffer, BFA students  
10 Temple  
Harris Smith, BA students  
213 Temple

## College Scholarships and Student Support

Donors have provided a limited number of scholarships that are reserved for students in the Hixson-Lied College of Fine and Performing Arts. Students interested in applying for one of these awards may obtain information from departmental chairpersons or from the Office of Scholarships and Financial Aid.

Undergraduate and graduate majors in the Hixson-Lied College of Fine and Performing Arts may qualify for financial support through three programs funded by the Hixson-Lied Endowment, including Student International Study Support, Student Domestic Study Support,

Student Scholarly and Creative Activity, and the Undergraduate Creative Research Grant. Applications and deadline information for all grants are available on the College Web site.

## Honors Program

The Hixson-Lied College of Fine and Performing Arts encourages qualified students to participate in the University Honors Program. As far as their plans and programs permit, these students are enrolled in the special sections for superior students. In addition, departments in the Hixson-Lied College of Fine and Performing Arts offer special honors sections of regular freshman courses to meet the needs of students with superior preparation in those subjects.

## Dean's Award for Academic Excellence

This award is presented annually in the spring to the graduating student from the three graduations (May, August, and December) of the previous calendar year who has achieved the highest level of scholastic performance while in the Hixson-Lied College of Fine and Performing Arts. The award is based on the final cumulative grade point average at graduation. In the event of a tie, other factors will be taken into consideration. It is expected that the last 48 hours of the student's work will have been completed in the Hixson-Lied College of Fine and Performing Arts.

## Dean's List

The College recognizes students for academic achievement during the fall and spring semesters by placement on the College Dean's List. To qualify for the Dean's List in the Hixson-Lied College of Fine and Performing Arts, students must complete 12 graded hours by the time of the first grade reports and attain a minimum semester grade point average of 3.7. The following do not qualify as part of the 12 credit hours: Pass/No Pass credit, transfer hours, removals of incompletes, and grade changes submitted after the census grade reports. Music education students are not eligible for the Dean's List during the semester in which they are enrolled in MUED 497 (Student Teaching).

## Degrees with Distinction

In recognition of outstanding academic excellence, the College grants the bachelors degree with the designation of *With Distinction*, *With High Distinction*, and *With Highest Distinction* to qualified students. The College Academic Distinction and Awards Committee determines the level of distinction. To be recommended for distinction, candidates must fulfill the specific criteria for *Highest Distinction*, *With High Distinction*, or *Distinction*, as described below, in addition to all of the general criteria and procedures applicable to all distinction classifications.

**Highest Distinction.** Candidates for the bachelors degree may be awarded *Highest Distinction* on the basis of the following criteria: outstanding

scholastic standing (a cumulative GPA above 3.9 as of the semester preceding graduation) and a thesis project of high quality.

**High Distinction.** Candidates for the bachelors degree may be awarded *High Distinction* by fulfilling one of two sets of criteria: 1) by achieving outstanding scholastic standing (a cumulative GPA above 3.9 as of the semester preceding graduation), or 2) by achieving excellent scholastic standing (a cumulative GPA above 3.8 as of the semester preceding graduation) and a thesis project of high quality.

**Distinction.** Candidates for the bachelors degree may be awarded *Distinction* by achieving one of two sets of criteria: 1) by excellent scholastic standing (a cumulative GPA above 3.8 as of the semester preceding graduation), or 2) by achieving high scholastic standing (a cumulative GPA of 3.5 as of the semester preceding graduation) and a thesis project of high quality.

The following criteria apply to all categories: an award of distinction on the basis of GPA alone (for *Distinction* or *High Distinction*) should not be considered automatic. In reviewing candidates, a consideration of the GPA is followed by an evaluation of the transcript, which includes: the general quality and breadth of the program, the quality of any transfer credit hours, the number of 300/400-level courses, the number of courses taken Pass/No Pass, and the number of courses retaken to remove D grades. Students must remove any incompletes by the end of the 8th week of classes in the term preceding graduation in order to be considered for recognition. In addition, ordinarily only students who have taken their last 48 hours of graded course work while registered in the Hixson-Lied College of Fine and Performing Arts are considered. Consequently, it is possible for a student to have a GPA above the cut-off point and still not receive a recommendation for distinction. Also, graduation with any level of distinction is not automatic with the submission of a thesis project (a requirement for a degree with *Highest Distinction*, and an option for degrees with *High Distinction* or with *Distinction*). It does, however, make a student eligible to be considered for graduation with such honors.

**Thesis Project.** The thesis project should be substantially more extensive than a term paper. It must be the result of independent, sustained thought, and intellectual curiosity, and it must be completed outside of the structured assignments normally required for a course (excluding 499H courses). A survey of the literature about a particular topic is not sufficient. The project must include a significant written component. All of the following elements are required: 1) an abstract consisting of no more than one page; 2) a clear formulation of the problem, question, or project; 3) a scholarly study which illuminates it, and 4) a substantive conclusion supported by evidence. Students must write in a manner and style that can be understood by a non-specialist in the field. A bibliography and reference to existing literature in the field should be included where appropriate. The phrase "Thesis Project" acknowledges the possibility of having a scholarly honors endeavor which might not conform to the narrow definition of a "thesis". The following are examples of previous

Thesis Projects: 1) the arrangement of a particular symphony and a detailed description of the process of composing arrangements with literary references, 2) the creation of a portfolio of photographic works accompanied by a lengthy historical and literary background, 3) a complete set of costume designs with detailed information about the design, research and garment building process and photographs of the realized costumes. The project must have a significant written component, but it need not be in the format of a formal thesis.

**Procedure:** Students who elect to work on a thesis project must make arrangements before their senior year by consulting with a faculty member who will supervise the project. The student must register for an independent study course in their major area of study (499H) before proceeding with the preparation of the independent work. The Thesis Project Registration must be completed, with signatures, and filed in the Dean's Office (102 Woods Art Building) by Tuesday of the second week of classes of the semester of graduation. The Thesis Project supervisor is expected to offer guidance to the student throughout the duration of the project. Two faculty members, the supervisor and the second reader, must complete a Thesis Project Evaluation Form. It is the responsibility of the faculty members to clearly address in their evaluations the extent to which the thesis project meets the three required elements listed above. Thesis projects and faculty evaluations must be submitted to the departmental unit head by the end of the 9th week of the semester of graduation. The unit heads signal departmental approval by forwarding the thesis project and faculty evaluations to the associate dean. Thesis projects not meeting the approval of the department will not be sent forward to the Dean's Office for further consideration. The College Academic Distinction and Awards Committee conducts the final evaluation of the thesis project. Specific deadlines for each term are indicated on the Registration and Evaluation forms. Materials submitted after the stated deadlines will not be considered by the Academic Distinction and Awards Committee.

In general, every thesis project is reviewed by the Committee. However, if no member of the Committee feels qualified in the subject area of the thesis project submitted, the Committee solicits the help of another faculty member with an appropriate background. This outside reader then submits to the Committee a formal written evaluation. Even so, members of the Committee must depend heavily on the faculty evaluations.

Students in the UNL Honors Program may submit an Honors Thesis, providing all of the above requirements and deadlines are met.

Students graduating in August must meet deadlines set for May graduates.

## International Opportunities

Students in the Hixson-Lied College of Fine and Performing Arts are encouraged to pursue opportunities to study abroad. Students wishing to do so should consult with their major advisers to explore possible programs of study and to determine the applicability of course work and the process for transferring credits.

## Admission to the Hixson-Lied College of Fine and Performing Arts

Requirements for admission to the Hixson-Lied College of Fine and Performing Arts are consistent with general University admission requirements (one unit equals one high school year): 4 units of English, 4 units of mathematics, 3 units of natural sciences, 3 units of social studies, and 2 units of foreign language. Students may have no more than two deficiencies. Those who have more than two deficiencies must take steps to remove the deficiencies before being admitted to the College. The following performance standards must also be met: test score (ACT composite of 22 or higher **or** combined SAT score of 1020 or higher) for freshmen, test score (TOEFL score 550/113/79 or higher or IELTS score of 6.6 or higher) for international students, or 2.5 (on a 4.0 scale) cumulative GPA and a minimum 2.0 GPA during the last term of record at the time of application for transfer students with 12 or more credits completed. Individual departments may have higher standards for acceptance into the different degrees and emphases. Please check with the individual departments for these standards. **Auditions are required for admission to the School of Music for music and dance majors and minors. Auditions are also required for admission to the Johnny Carson School of Theatre and Film for the BA Performance Emphasis. A separate application and portfolio review are required for acceptance into the BFA Film and New Media Emphasis, and the BA Directing and Management Emphasis.**

## Removing Entrance Deficiencies

Students who are admitted through the Admission by Review process with core course deficiencies will have certain conditions attached to their enrollment at UNL. These conditions are on page 6 of this bulletin under "Removal of Deficiencies."

For University policy, see "Graduation Requirements" on page 16.

## Transfer Students

To be considered for admission, a transfer student must have a cumulative GPA of 2.5 (on a 4.0 scale) and a minimum GPA of 2.0 during the last term of record at the time of application. Transfer students who have completed less than 12 credit hours of college study must submit either the ACT or SAT scores.

Ordinarily, hours earned at an accredited college are accepted by the University. The College, however, will evaluate all hours submitted on an application for transfer and reserves the right to accept or reject any of them. The maximum number of hours the University will accept on transfer from a two-year college is 66.

All transfer students must complete the Residency Requirement (see "Residency Requirement and Extended Education Courses" on page 329), and at least 9 hours in the major field must be completed at the University regardless of the number of hours transferred.

The Hixson-Lied College of Fine and Performing Arts will accept no more than 15 semester hours of D grades from schools other than UNO or UNK. All grades may be transferred from UNO or UNK. However, transfer courses within a student's major or minor will be evaluated by that unit and held to the same minimum grade standards as courses taken at UNL.

### Department of Art and Art History Transfer Credit Policy

**BFA** – At least 36 credit hours in studio art and 9 credit hours in art history of the required BFA courses must be taken at UNL. Courses taken at other academic institutions may be substituted for the remaining required courses subject to evaluation by the department.

**BA in Studio Art** – At least 12 credit hours in studio art and 9 credit hours in art history of the required BA courses must be taken at UNL. Courses taken at other academic institutions may be substituted for the remaining required courses subject to evaluation by the department.

**BA in Art History** – At least 18 credit hours of the required art history courses must be taken at UNL. Courses taken at other academic institutions may be substituted for the remaining required courses subject to evaluation by the department.

### School of Music Transfer Credit Policy

The following will be used by advisers as guidelines for the evaluation of transfer credits which are **less than five years old**:

- If a transfer student has successfully completed (grade C or above) approved transfer credits which are **equivalent** to NU area requirements in terms of number of credit hours and scope of content, that area will be considered completed at the discretion of the chief degree program adviser.
- For approved transfer credits which are **lacking equivalency** in either number of credit hours, scope of content, or grade received to NU area requirements in applied music, music theory, sight singing/aural skills, and keyboard skills, the number of transfer credits accepted and placement in the NU area will be determined by audition/proficiency tests administered by designated area faculty.
- For approved transfer credits which are **lacking equivalency** in other music areas (history and ensembles), the number of transfer credits accepted will be determined by the chief degree program adviser.

All music course work which is **more than five years old** must be validated by an audition or competency examination given by designated area faculty.

### Johnny Carson School of Theatre and Film Transfer Credit Policy

There are no additional restrictions regarding transfer credit.

## Transfer Credit from Foreign Institutions

Credit for courses taken at foreign universities and colleges will be transferred only after validation by the appropriate department. This evaluation may include examination of the student over subject matter studied at the foreign institution.

Normally credit is not given for pre-university work. In some instances, however, it may be possible to receive credit through satisfactory examination.

The College will accept no more than 15 semester hours of D grades from other schools. The D grades cannot be applied toward requirements in a major.

## International Baccalaureate Credit

Students who have studied art, music, or theatre within the International Baccalaureate Program will be given credit for courses at UNL according to the guidelines established by each academic unit. Contact the department office for specific course information.

## College Academic Policies

### Class Standing

**Sophomore Standing.** For admission to sophomore standing a student must have completed all of the College entrance requirements; earned a minimum of 27 semester hours of credit; and attained a total grade point average of at least 2.0.

**Junior Standing.** A student has junior standing after meeting the requirements for sophomore standing and completing 53 semester hours of credit.

**Senior Standing.** A student has senior standing after meeting the requirements for junior standing and completing 89 semester hours of credit.

### Pass/No Pass Privilege

University regulations for the Pass/No Pass privilege state:

The Pass/No Pass option is designed to be used by a student seeking to expand his/her intellectual horizons by taking courses in areas where he/she may have minimum preparation without adversely affecting his/her grade point average.

1. Neither the P nor the N grade contribute to a student's GPA
2. P is interpreted to mean C or above. Some professional education courses require a C+ or above.
3. A change to or from Pass/No Pass may be made until mid-term (1/2 of the course.) This date coincides with the final date to drop a course without the instructor's approval.
4. The Pass/No Pass or grade registration cannot conflict with the professor's, department's, college, or University policy governing grading option.

5. Prior to the mid-term deadline, changing to or from the Pass/No Pass requires using the NRoll system to change the grading option or filing a Drop/Add form with Registration and Records, 107 Canfield Administration Building. After the mid-term deadline, a student registered for Pass/No Pass cannot change to a grade registration unless the Pass/No Pass registration is in conflict with a professor's, department's, college, or University policy governing Pass/No Pass.
6. The Pass/No Pass grading option is not available to students on academic probation unless the course is offered only on a Pass/No Pass basis.
7. For undergraduates, the University maximum of 24 pass credit hours and/or college and department limits will apply. These limits do not include courses only offered on a Pass/No Pass basis.
8. The Pass/No Pass grading option cannot be used for the removal of C- or D or F grades.

Pass/no pass privileges in the Hixson-Lied College of Fine and Performing Arts are extended to students according to the following additional regulations:

1. Pass/no pass hours can count toward fulfillment of Essential Studies and Integrative Studies requirements up to the 24-hour maximum.
2. Freshmen and sophomores may enroll for no more than 6 hours of Pass/No Pass work per semester.
3. Students may not elect to take courses on a Pass/No Pass basis to fulfill degree requirements in the major. Up to 6 hours of Pass/No Pass may be taken in the Plan A minor or each of two Plan B minors.
4. Departments may specify that certain courses can be taken only on a Pass/No Pass basis.
5. The College will permit no more than a total of 24 semester hours of Pass/No Pass grades to be applied toward degree requirements. This total includes all "pass" grades earned at UNL and other schools.

Individual departments vary in their policies regarding Pass/No Pass hours as applied to the major and minor. Consult the individual departmental listings for these policies. Students who wish to apply Pass/No Pass hours to their major and minor(s) must obtain approval on a form that is available in the Dean's Office, 102 Woods Art Building.

### Credit by Examination

- Through study or experience that parallels a University of Nebraska-Lincoln course, a regularly enrolled University student may feel prepared to pass an examination on the course content of a specific course for credit in that course. To apply for credit, a student should:
1. Consult with the Department Chair.
  2. Obtain a Credit by Examination Form at the Records Office, 107 Canfield Administration Building, 472-3649. Current enrollment in the University must also be verified.
  3. Secure the approval signature from the Department Chair, instructor, and the Dean of the student's college.

4. Secure the bursar's receipt for payment of the appropriate fee per course for Credit by Examination. Currently, the fee is one-half the resident tuition rate.
5. Present the completed form to the instructor designated by the Department Chair. The instructor will give the examination and report the results on the Credit by Examination Form to the Records Office, 107 Canfield Administration Building, 472-3636.

Examination for credit through UNL departments may be taken only by currently enrolled students. A student is not permitted to receive Credit by Examination in a course which is a prerequisite for a course already taken unless the course and its prerequisites cover essentially different subject matter.

The Hixson-Lied College of Fine and Performing Arts also gives credit for the subject and general examinations of the College Level Examination Program and the Advanced Placement Program administered by the College Entrance Examination Board. See the Dean's Office, 102 Woods Art Building, for current policy regarding CLEP and AP examinations.

### Grading Appeals

A student who feels that he/she has been unfairly graded may take the following sequential steps:

1. Talk with the instructor concerned. Most problems are resolved at this point.
2. Talk to the instructor's department chairperson.
3. Take the case to the Grading Appeal Committee of the department concerned. The Committee should be contacted through the department chairperson.
4. Take the case to the College Grading Appeals Committee by contacting the Dean's Office, 102 Woods Art Building.

### General Requirements for Graduation

**Credit Hours and Grade Point Average.** A minimum of 125 semester hours of credit is required for graduation from the Hixson-Lied College of Fine and Performing Arts. Majors in the College are required to maintain a minimum current and cumulative GPA of 2.0. Individual departments may require a higher current and cumulative GPA.

**ACE Requirements, Library 110, Majors, and Minors.** In addition to general requirements, students must complete ACE requirements for a degree, LIBR 110, the requirements for a major, and the requirements for a minor or minors if required by the major.

**Courses Numbered above 299.** Thirty of the 125 semester hours of credit must be in courses numbered above 299.

## Course Exclusions and Restrictions

No credit for graduation is allowed for any course deemed to be high school-level (MATH 100A Intermediate Algebra, driver training education, etc.) or transfer credit from an institution with the primary purpose of vocational training (automotive repair, respiratory therapy, etc.).

The current Hixson-Lied College of Fine and Performing Arts policy regarding elective credit in ROTC and activity or athletics practice courses in nutrition and health sciences, College of Education and Human Sciences is:

1. Students majoring in the Hixson-Lied College of Fine and Performing Arts may count no more than 10 hours credit in military science, naval science or aerospace studies courses toward their degree. Credit for courses taken beyond this limit will not count toward the credit hour requirements for a degree from the College. This restriction does not apply to courses cross listed between military science, naval science or aerospace studies and departments of the Hixson-Lied College of Fine and Performing Arts.
2. Students majoring in the Hixson-Lied College of Fine and Performing Arts may count no more than 4 hours credit (1 credit hour per semester) in activity or athletic practice courses, and/or basic military training toward their degree. Additional activity, athletic practice and basic military training courses may be taken, but the credit earned will not count toward a degree from the Hixson-Lied College of Fine and Performing Arts.
3. A maximum total of 10 hours credit in activity, athletic practice, and basic military training courses and military science, naval science, or aerospace studies courses combined can be counted toward a degree in the Hixson-Lied College of Fine and Performing Arts. This restriction does not apply to courses cross listed between military science, naval science, or aerospace studies and departments of the Hixson-Lied College of Fine and Performing Arts.

## Residency Requirement and Extended Education Courses

Students must meet either of the following residency qualifications:

- At least 30 of the last 36 hours of credit must be registered for and completed while enrolled at UNL.
- A total of 90 credits must be registered for and completed while enrolled at UNL.

Thirty semester hours earned through independent Extended Education and Outreach (EE&O) courses at UNL may be applied toward a degree from the College. However, independent EE&O courses do not count toward Residence or Integrative Studies requirements.

Credit earned during study abroad may be used toward degree requirements if students participate in prior approved programs and register through UNL (see "Study Abroad and Exchange Programs" on page 20).

**Restrictions on D Grades.** The College will accept no more than 15 semester hours of D grades from schools outside of the University of Nebraska system. D grades earned at UNL or transferred from other schools cannot be applied toward requirements in a major or a minor.

## Degree Audit (The Senior Check)

During the second semester of the junior year or after completing 85 hours, students should apply for a degree audit at the Office of Registration and Records Graduation Services, 109 Canfield Administration Building.

## Special Requests and Waivers

Special requests concerning degree programs, including inquiries about exceptions to degree requirements, waivers, and substitutions should be made to the Dean's Office, 102 Woods Art Building.

## Application for a Degree

Each student who expects to receive a diploma must file an application of candidacy for the diploma with Graduation Services in the Office of Registration and Records, 109 Canfield Administration Building. Announcements about deadline dates are posted on bulletin boards and printed in *The Daily Nebraskan*.

Students are responsible for informing the Office of Registration and Records of their graduation plans, including their addresses; the manner in which they are completing their requirements such as by Extended Education, by clearance of incompletes, by enrollment at another institution, by taking special examinations, etc.; and of any later revision of such plans. Failure to follow this procedure may cause postponement of graduation until a later semester.

## Which Undergraduate Bulletin to Follow

Students who first enroll at Nebraska under the 2008-2009 *Undergraduate Bulletin* must fulfill the requirements stated in this bulletin or in any other bulletin which is published while they are enrolled in the College provided the bulletin they follow is no more than ten years old at the time of graduation. A student must, however, meet the requirements from one bulletin only rather than choosing a portion from one bulletin and the remainder from another.

**Exception:** Students pursuing any degree in the School of Music who fail to take at least one course that will fulfill their degree requirements during a 12-month period must apply for re-admission. They are then required to move to the new bulletin and fulfill the requirements in effect at the time of readmission.

## Degree Programs

The Hixson-Lied College of Fine and Performing Arts offers curricula leading to the degrees of bachelor of arts, bachelor of fine arts, bachelor of music, and bachelor of music education.

A student who previously has received a baccalaureate degree must fulfill the following requirements to receive a second degree in the Hixson-Lied College of Fine and Performing Arts:

1. Complete a minimum of 30 semester hours of course work at UNL, and
2. Fulfill the ACE requirements and the requirements for a major.

## General Education Requirements

For a description of requirements for UNL's general education program, Achievement-Centered Education (ACE), which is effective AY 2009-10, see page 17.

## Language Requirement

The languages requirement serves to help students gain a working familiarity with a language and a culture other than their own.

All students pursuing bachelor of arts or bachelor of music degrees are required to complete four successive units in one foreign language. Some or all of these courses may be completed while in high school. Courses approved to satisfy the languages requirement are offered by the Department of Classics and Religious Studies and the Department of Modern Languages and Literatures in the College of Arts and Sciences, and the Department of Speech-Language Pathology and Audiology in the College of Education and Human Sciences. The student must complete either 10 hours at the 100 level and 6 hours at the 200 level, or 8 hours at the 100 level and 8 hours at the 200 level. A student is required to successfully complete 202 to fulfill the languages requirement. (Exceptions: in Greek, the student must complete GREK 101, 102 and two 300-level courses; in Latin, a student must take LATN 101, 102, 301, and 302.) Instruction is currently available in Czech, French, German, Greek, Hebrew, Japanese, Latin, Omaha Native Language, Russian, Spanish, and American Sign Language.

### NOTE:

- Interim language courses for credit in the country of the language are also periodically available.
- A student who has completed three years of one foreign language study in high school may fulfill the languages requirement by taking a fourth-semester-level course.
- A student who has completed the fourth-year level of one foreign language in high school is exempt from the languages requirement.
- Any student who achieves a specified scaled score in the College Level Examination Program (CLEP) subject exam in French, German, and Spanish, levels 1 and 2, will be exempt from the languages requirement and will also receive credit for the fourth semester course in the language.
- A transfer student with 11 or 12 semester hours of accepted credit has two choices: 1) to complete 6 hours in the same language at the 200 level; or 2) with permission of the chair of the department to enroll in a fourth semester course.

- A student from a foreign country who has demonstrated acceptable proficiency in his or her native language (other than English) is exempted from the languages requirement without credit toward the degree. American students who present acceptable evidence that their second language is English are exempted from the languages requirement without credit toward the degree. All such students should see the Dean's Office, 102 Woods Art Building, for this exemption.

## Approved Courses

- ANTH 104A. Native Language: Omaha I (ETHN 104A) (5 cr)  
 ANTH 105A. Native Language: Omaha II (ETHN 105A) (5 cr)  
 ANTH 204A. Native Language: Omaha III (ETHN 204A) (3 cr)  
 ANTH 205A. Native Language: Omaha IV (ETHN 205A) (3 cr)  
 CZEC 101. Beginning Czech I (5 cr)  
 CZEC 102. Beginning Czech II (5 cr)  
 CZEC 201. Second-Year Czech I (3 cr)  
 CZEC 202. Second-Year Czech II (3 cr)  
 ETHN 104A. Native Language: Omaha I (ANTH 104A) (5 cr)  
 ETHN 105A. Native Language: Omaha II (ANTH 105A) (5 cr)  
 ETHN 204A. Native Language: Omaha III (ANTH 204A) (3 cr)  
 ETHN 205A. Native Language: Omaha IV (ANTH 205A) (3 cr)  
 FREN 101. Beginning French I (5 cr)  
 FREN 102. Beginning French II (5 cr)  
 FREN 201. Second-Year French I (3 cr)  
 FREN 202. Second-Year French II (3 cr)  
 FREN 203. Conversation & Composition (3 cr)  
 FREN 210. Accelerated Second-Year French (6 cr)  
 GERM 101. Beginning German I (5 cr)  
 GERM 102. Beginning German II (5 cr)  
 GERM 201. Second-Year German I (3 cr)  
 GERM 202. Second-Year German II (3 cr)  
 GERM 203. Conversation & Composition (3 cr)  
 GERM 210. Accelerated Second-Year German (6 cr)  
 GREK 101. Elementary Greek I (5 cr)  
 GREK 102. Elementary Greek II (5 cr)  
 GREK 301. Greek Prose I (3 cr)  
 GREK 302. Greek Poetry I (3 cr)  
 GREK 373. New Testament Greek (3 cr)  
 HEBR 101. Elementary Biblical Hebrew I (3 cr)  
 HEBR 102. Elementary Biblical Hebrew II (3 cr)  
 HEBR 301. Biblical Hebrew Prose (3 cr)  
 HEBR 302. Biblical Hebrew Prose (3 cr)  
 JAPN 101. Beginning Japanese I (5 cr)  
 JAPN 102. Beginning Japanese II (5 cr)  
 JAPN 201. Second-Year Japanese I (3 cr)  
 JAPN 202. Second-Year Japanese II (3 cr)  
 LATN 101. Elementary Latin I (5 cr)  
 LATN 102. Elementary Latin II (5 cr)  
 LATN 151. Accelerated Latin (3 cr)  
 LATN 301. Latin Prose I (3 cr)  
 LATN 302. Latin Poetry I (3 cr)  
 RUSS 101. Beginning Russian I (5 cr)  
 RUSS 102. Beginning Russian II (5 cr)  
 RUSS 201. Second-Year Russian I (3 cr)  
 RUSS 202. Second-Year Russian II (3 cr)  
 SLPA 101. Beginning American Sign Language I (4 cr)  
 SLPA 102. Beginning American Sign Language II (4 cr)  
 SLPA 201. Second Year American Sign Language I (4 cr)  
 SLPA 202. Second Year American Sign Language II (4 cr)  
 SPAN 101. Beginning Spanish I (5 cr)  
 SPAN 102. Beginning Spanish II (5 cr)  
 SPAN 201. Second-Year Spanish I (3 cr)  
 SPAN 202. Second-Year Spanish II (3 cr)  
 SPAN 203. Conversation & Composition (3 cr)  
 SPAN 210. Accelerated Second-Year Spanish (6 cr)

## Introduction to Library Research (1 cr)

See "Information Discovery and Retrieval" on page 389.

## Areas of Study for the Major and Minor

### The Major

Students must declare a major field in the Hixson-Lied College of Fine and Performing Arts. Students should consult the appropriate section of the Bulletin for major requirements in the various areas of study in the Hixson-Lied College of Fine and Performing Arts.

It is sometimes possible, through careful planning, for students to complete more than one undergraduate major. Students should consult their advisers about this possibility. The student who majors in more than one field will be assigned to an adviser in each field.

Minimum grade requirements within the major area are set by each academic unit.

Transfer students must take at least 9 hours in their chosen major field at UNL regardless of the number of hours transferred.

### Inter-College Majors

A student in the Hixson-Lied College of Fine and Performing Arts pursuing a bachelor of arts degree may also complete a second bachelor of arts major in the College of Arts and Sciences. Likewise, a student in the College of Arts and Sciences pursuing a bachelor of arts degree may also complete a second bachelor of arts major in the Hixson-Lied College of Fine and Performing Arts. The student must complete all degree requirements in the degree college in addition to the course work for the second major in the visiting college. One degree (diploma) will be awarded upon completion.

### The Minor

The requirement of minors is variable within the College and depends upon the student's major department. Two minor plans are available.

**Plan A.** A single minor is completed following the requirements listed in each area of study.

**Plan B.** Two or more minors are completed with fewer hours in each subject than the number required for a single minor. Hour requirements are stated in each area of study listing.

Minors outside the Hixson-Lied College of Fine and Performing Arts are permitted.

## Areas of Study

The Hixson-Lied College of Fine and Performing Arts offers study toward the major and minor in many areas. In addition to the listed areas, the Interdisciplinary Studies option (see "Interdisciplinary Studies" on page 335) allows even more flexibility in the choice of a major study area.

Specific requirements for each area of study are listed with the course descriptions in the alphabetical department and area listings in this bulletin.

A summary of the major and minor areas of study for degrees offered by the Hixson-Lied College of Fine and Performing Arts includes:

## Bachelor of Arts Degree

### Areas offering majors and minors

	Page
Art.....	330
Art History .....	330
Dance .....	334
Music.....	335
Theatre Arts .....	347
University Studies.....	350

### Area offering major only

	Page
Interdisciplinary Studies .....	335

## Bachelor of Fine Arts Degree

Art.....	331
Theatre Arts .....	347

## Bachelor of Music Degree

Music.....	337
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## Bachelor of Music Education Degree

Music Education (see Music) .....	337
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## Hixson-Lied College of Fine and Performing Arts-Areas of Study

Information concerning each of the College's areas of study is presented in the following sequence:

1. Department or area name,
2. Department chair and department address and teaching professors,
3. General information,
4. Pass/no pass regulations regarding major and minor work,
5. Requirements for a major in the area of study,
6. Requirements for a minor or minors in the area of study, and
7. Detailed description of courses.

## Art and Art History

**Chair:** Ed Forde, 120 Richards Hall

**Professors:** Bartels, Forde, Hoff, Kendall, Kunc,

Mamiya, Pinnell, Stewart

**Associate Professors:** Bolland, Cal, Dominguez, Fritz,

Fuller, Ingraham, Katz, Neal, Souto, Williams

**Assistant Professor:** Holz

The program in the Department of Art and Art History enables students to attain proficiency in

the practice of art and knowledge of the history of art in addition to a general college education. The department is keenly interested in both students who choose art as their profession and who want to devote themselves to a period of intensive education, and those who recognize the cultural advantages or who find in artistic endeavor a high degree of personal enjoyment and satisfaction.

The department offers facilities for instruction and exhibition in a variety of studios, shops, and laboratories. The Sheldon Museum of Art, adjacent to the department, is the setting for traveling exhibitions as well as the display of works of art selected from the Sheldon's extensive permanent collection. The department also presents exhibitions in its own Eisentrager-Howard Gallery. Both serve as extensions of the studio and classroom learning experience.

Students in theory and practice of art are required to furnish their own materials except certain studio equipment provided by the University. Most department courses carry a lab or special fee. When completed, all work is under departmental control until after the public exhibition of student work at the end of the academic year.

The UNL Department of Art and Art History is an accredited institutional member of the National Association of Schools of Art and Design.

## Grade Restrictions for Art and Art History

All art and/or art history majors must earn a minimum grade of C in all courses that count toward their major.

No courses for the major may be taken Pass/No Pass except those offered only as Pass/No Pass.

## Requirements for the Major in Art

### Bachelor of Arts Degree

	Hours
ACE Requirements .....	30
<i>All courses must be selected from the lists found under "ACE Courses" on page 383.</i>	
Languages: Classical & Modern .....	0-16
Library 110 .....	1
Art Major Requirements .....	50
Visual Literacy .....	8
ARTP 140A, 140B, 141A, 141B	
Studio Electives .....	21
<i>(At least 3 hrs must be in courses numbered above 299.)</i>	
ARTP 400 .....	3
AHIS 101 and 102 .....	6
Art History Electives .....	12
<i>(At least 3 hrs must be in courses numbered above 299.)</i>	
Minors.....	18-24
Electives.....	4-26
<b>Total hours required for graduation .....</b>	<b>125</b>

A minor is required. Either one (1) Plan A or two (2) Plan B minors may be pursued according to the guidelines on page 330. Art history may be used only as a Plan B minor.

No more than 6 hours of independent study courses (ARTP 395,495, 496, 499H; AHIS 390, 392, 395, 490, 492, 495, 499H) may count toward the major in the BA degree.

### Bachelor of Fine Arts Degree

A candidate for the bachelor of fine arts degree may pursue an emphasis if desired. Areas of emphasis include ceramics, drawing, graphic design, painting, photography, printmaking and sculpture. **Minors are not permitted with the BFA degree.**

	Hours
ACE Requirements .....	30
<i>All courses must be selected from the lists found under "ACE Courses" on page 383.</i>	
Library 110 .....	1
Art Major Requirements .....	89
Visual Literacy .....	8
ARTP 140A, 140B, 141A, 141B	
Required Drawing .....	6
DRAW 201, 202	
Required Distribution .....	18
SCLP 211, GRPH 221, CERM 231, PRNT 241, PANT 251, PHOT 261	
Studio Emphasis or Electives .....	39
ARTP 400 Capstone Exhibition .....	3
AHIS 101 and 102 .....	6
Art History Electives .....	9
<i>(At least 3 hrs must be in courses numbered above 299.)</i>	
Electives .....	5
<b>Total hours required for graduation .....</b>	<b>125</b>

No more than 9 hours of independent study courses (ARTP 395, 495, 496, 499H; AHIS 390, 392, 395, 490, 492, 495, 499H) may count toward the major in the BFA degree.

All candidates for the BFA in art are required to enroll and participate in a group exhibition of their major work. This "Capstone Senior Exhibition" takes place during the student's final semester in the program, and is presented in the Eisentrager-Howard Gallery.

## Requirements for the Major in Art History and Criticism

### Bachelor of Arts Degree

	Hours
ACE Requirements .....	30
<i>All courses must be selected from the lists found under "ACE Courses" on page 383.</i>	
Languages: Classical & Modern .....	0-16
Library 110 .....	1
Art Major Requirements .....	50
Visual Literacy .....	8
ARTP 140A, 140B, 141A, 141B	
Studio Electives .....	21
<i>(At least 3 hrs must be in courses numbered above 299.)</i>	
ARTP 400 .....	3
AHIS 101 and 102 .....	6
Art History Electives .....	12
<i>(At least 3 hrs must be in courses numbered above 299.)</i>	
Minors.....	18-24
Electives.....	4-26
<b>Total hours required for graduation .....</b>	<b>125</b>

A minor is required. Either one (1) Plan A or two (2) Plan B minors may be pursued according to the guidelines on page 330.

No more than 6 hours of independent study courses (AHIS 390, 392, 395, 490, 492, 495, 499H) may count toward the major in the BA degree.

## Requirements for the Minor in Art or Art History

### Studio Minor

Plan A: 20 hours, including ARTP 140A, 140B, 141A, 141B; AHIS 101 and 102; and 6 hrs of studio electives.

Plan B: 12 hours of studio art courses.

### Art History Minor

Plan A: 18 hours of art history including AHIS 101 and 102. At least 3 hrs of the 18 hrs must be in courses numbered above 299.

Plan B: 12 hours of art history including AHIS 101 and 102.

## Courses of Instruction

Studio art courses are based on a ratio of two clock hours per week in the classroom for each semester credit hour received. A minimum of 3 additional hours outside of regularly scheduled class hours are required.

Refer to the Graduate Bulletin for 900-level courses.

### Art Theory and Practice (ARTP)

099. Capstone Senior Exhibition (0 cr) Prereq: Senior standing and permission. *ARTP 099 must be taken during the final year.* Public exhibition to demonstrate artistic proficiency.

(ACE 2) 140A. Visual Literacy Lab: Analysis and/or Composition (ARCH, IDES, JGEN, LARC, TXCD 140A) (2 cr) Lab 6. Prereq: ARTP: Art major or candidate for teaching endorsement in art. ARCH: Admission to the College of Architecture. IDES: Admission to the College of Architecture. JGEN: College of Journalism and Mass Communications major and 2.75 GPA. LARC: Admission to the College of Architecture. TXCD: Textiles, Clothing and Design major or minor. Development of creative and perceptual analytic skills through problem solving in design. Composition and analysis.

(ACE 2) 140B. Visual Literacy Lab: Perceptual Drawing (ARCH, IDES, JGEN, LARC, TXCD 140B) (2 cr) Lab 6. Prereq: ARTP: Art major or candidate for teaching endorsement in art. ARCH: Admission to the College of Architecture. IDES: Admission to the College of Architecture. JGEN: College of Journalism and Mass Communications major and 2.75 GPA. LARC: Admission to the College of Architecture. TXCD: Textiles, Clothing and Design major or minor. Development of creative and perceptual analytic skills through problem solving in drawing and design. Composition and perceptual drawing.

(ACE 2) 141A. Visual Literacy Lab: Color (ARCH, IDES, JGEN, LARC, TXCD 141A) (2 cr) Lab 6. Prereq: ARTP: Art major or candidate for teaching endorsement in art. ARCH: Admission to the College of Architecture. IDES: Admission to the College of Architecture. JGEN: College of Journalism and Mass Communications major and 2.75 GPA. LARC: Admission to the College of Architecture. TXCD: Textiles, Clothing and Design major or minor. Development of creative and perceptual analytic skills through problem solving in drawing and design. Composition and color theory application.

(ACE 2) 141B. Visual Literacy Lab: Speculative Drawing (ARCH, IDES, JGEN, LARC, TXCD 141B) (2 cr) Lab 6. Prereq: ARTP: Art major or candidate for teaching endorsement in art. ARCH: Admission to the College of Architecture. IDES: Admission to the College of Architecture. JGEN: College of Journalism and Mass Communications major and 2.75 GPA. LARC: Admission to the College of Architecture. TXCD: Textiles, Clothing and Design major or minor. Development of creative and perceptual analytic skills through problem solving in drawing and design. Composition and speculative drawing.

(ACE 2) 142. Visual and Aural Literacy (ARCH, IDES, JOUR, TXCD 142) (2 cr) Lec, quiz. Prereq: JOUR: College of Journalism and Mass Communications major and 2.75 GPA. ARTP: Art major or candidate for teaching endorsement in art. ARCH: Admission to the College of Architecture. IDES: Admission to the College of Architecture. TXCD: Textiles, Clothing and Design major or minor. For course description, see JOUR 142.

(ACE 2) **143. Visual Literacy: Art and Design** (ARCH, IDES, JGEN, LARC, TXCD 143) (2 cr) Lec 2. Prereq: ARTP: Art major or candidate for teaching endorsement in art. ARCH: Admission to the College of Architecture. IDES: Admission to the College of Architecture. JGEN: College of Journalism and Mass Communications major and 2.75 GPA. LARC: Admission to the College of Architecture. TXCD: Textiles, Clothing and Design major or minor. Introduction to issues in Visual Literacy as they relate to art and design. Formal and critical analysis.

**170. Digital Literacy** (3 cr) Stu. Prereq: Permission. Introduction to digital media and basic principles of static 2D and 3D digital design using relevant software and hardware.

(ACE 2, 7) [ES][IS] **189H. University Honors Seminar** (3 cr) Prereq: Good standing in the University Honors Program or by invitation. *University Honors Seminar 189H is required of all students in the University Honors Program.* Topic varies.

**395. Internship in Art** (1-6 cr, max 6) Fld. Prereq: Junior standing and permission of department chair. *Pass/No Pass only. Coordinated through the Internship and Cooperative Education Office.* Special internship placement in community, state, or federal institutions related to the area of emphasis or interest.

(ACE 10) **400. Capstone Art Experience** (3 cr I, II) Prereq: Senior standing and permission. *ARTP 400 should be taken during the final semester of the BA or BFA in art. If the final semester is summer, then ARTP 400 should be taken during the preceding spring semester.* Culminating experience in studio art. Writing, thinking, and talking about art and planning, preparing, and presenting a Capstone Exhibition.

**495. Internship in Art** (1-6 cr, max 6) Fld. Prereq: Senior standing; major in art; and permission of department chair. *Pass/No Pass only. Coordinated through the Internship and Cooperative Education Office.*

Advanced work in special internship placements.

**496. Problems in Studio** (1-6 cr, max 24) Stu. Prereq: Permission. Problems in technique and expression for the advanced undergraduate.

**497. Art in the Community** (3 cr per sem, max 12) Fld. Prereq: ARTP/ARCH/IDES/JGEN/LARC/TXCD 140A, 140B, 141A, and 141B. Partner with local schools and community organizations in the production of collaborative exhibitions and events.

**499H. Honors: Special Problems in Studio Art** (1-6 cr, max 12) Ind. Prereq: Good standing in the University Honors Program or by invitation. *Open only to candidates with distinction or with high distinction or with highest distinction in the Hixson-Lied College of Fine and Performing Arts.*

**896 (896T). Advanced Problems in Studio** (1-24 cr) Prereq: Permission.

**899. Studio Thesis** (6-10 cr) Prereq: Permission.

## Art-Ceramics (CERM)

(ACE 7) [ES] **131. Introduction to Ceramics** (3 cr) *Credit will not count toward the major in art.*

Introduction to the materials, techniques and processes involved in hand-building with clay. Insight into aesthetic issues of concern to the contemporary artist.

[ES] **231. Beginning Ceramics** (3 cr) Stu 6. Prereq: ARTP/ARCH/IDES/JGEN/LARC/TXCD 140A and 140B, or ARTP/ARCH/IDES/JGEN/LARC/TXCD 141A and 141B.

Introduction to the construction of pottery and sculptural clay forms with an overview of the history, aesthetics, and criticism of ceramic artwork.

[ES] **232. Intermediate Ceramics I** (3 cr) Prereq: CERM 231. Continuation of CERM 231.

**331. Intermediate Ceramics II** (3 cr) Stu. Prereq: CERM 232. Continuation of CERM 232.

**332. Advanced Ceramics I** (3 cr) Stu 6. Prereq: CERM 331. Continuation of CERM 331.

**399. Special Topics in Ceramics** (1-6 cr, max 24) Stu. Prereq: Permission. Topic varies.

**431. Advanced Ceramics II** (3 cr) Stu. Prereq: CERM 332. Continuation of CERM 332. Formulation of own problems while working closely with the instructor. Emphasis on critical thinking and the philosophical problems confronting the contemporary ceramics artist.

**432. Advanced Ceramics III** (3 cr) Stu. Prereq: CERM 431. Continuation of CERM 431.

**434/834. Glaze Formulation** (3 cr) Stu 6. Prereq: Permission. Practical and theoretical information to develop, mix, fire, and troubleshoot ceramic surfaces for pottery and sculpture.

**435/835. Kiln Design and Construction** (3 cr) Stu 6. Prereq: Permission. Design and build a kiln for firing pottery or sculpture.

**496. Problems in Ceramics** (3 cr, max 12) Stu. Prereq: Advanced undergraduate and permission. Problems in technique and expression in ceramics.

**498/898. Special Topics in Ceramics** (3 cr, max 12) Stu. Prereq: Permission. Topic varies.

**831. Ceramics I** (1-6 cr)

**832. Ceramics II** (1-6 cr)

**899. Studio Thesis in Ceramics** (6-10 cr, max 10) Stu. Prereq: Admission to masters degree program and permission of major adviser.

## Art-Drawing (DRAW)

(ACE 7) [ES] **101. Beginning Drawing** (3 cr)

Fundamental principles of drawing and perspective based on observation and imagination.

[ES] **201. Intermediate Drawing** (3 cr) Stu 6. Prereq: ARTP/ARCH/IDES/JGEN/LARC/TXCD 140A, 140B, or ARTP/ARCH/IDES/JGEN/LARC/TXCD 141A and 141B.

Intermediate work in drawing with emphasis on figure drawing.

[ES] **202. Life Drawing** (3 cr) Prereq: DRAW 201 or permission. Instruction in drawing the human figure.

**301. Advanced Drawing I** (3 cr) Prereq: DRAW 202 or permission. Advanced work in drawing with emphasis on individual expression.

**302. Advanced Drawing II** (3 cr) Prereq: DRAW 301, or permission. Continuation of DRAW 301.

**401. Advanced Drawing III** (3 cr) Prereq: DRAW 302 or permission. Advanced work in drawing with emphasis on individual problems.

**402. Advanced Drawing IV** (3 cr) Prereq: DRAW 401 or permission. Continuation of DRAW 401.

**801. Drawing I** (1-6 cr)

**802. Drawing II** (1-6 cr)

## Art-Graphic Design and Illustration (GRPH)

[ES] **221. Beginning Graphic Design** (3 cr) Stu 6. Prereq: ARTP/ARCH/IDES/JGEN/LARC/TXCD 140A, 140B, 141A and 141B. Introduction to the graphic designer's literal and visual methods of creative communication including comprehensive art preparation.

[ES] **223. Basic Typography** (3 cr) Prereq: ARTP/ARCH/IDES/JGEN/LARC/TXCD 140A, 140B, 141A and 141B.

Introduction to typeface classification, foundations of typographic imaging systems, and fundamentals of typographic design problem solving.

[IS] **321. Intermediate Graphic Design** (3 cr) Prereq: GRPH 221. Continued studies of the graphic designer creative approach, including elements of typography, photography, illustration, and design in various print formats.

**323. Advanced Typography** (3 cr) Prereq: GRPH 223 or permission. Survey of historic and contemporary typographic trends; letterforms as abstract images; practice of typographic design by editing literal concepts for visual ideas.

**324. Publication Design** (3 cr) Prereq: GRPH 321. Modular grid usage as an organizational tool for textual and graphic elements in various publication formats.

**327. Digital Book Design** (3 cr) Stu. Prereq: GRPH 321. Book forms from traditional multipage formats to present-day on-demand digital publications.

[IS] **421. Advanced Graphic Design** (3 cr) Prereq: GRPH 321 or permission. Advanced graphic design problem solving to formulate the student's individual creative design approach.

**422. Seminar in Illustration** (3 cr) Prereq: WATC 257, PHOT 262, DRAW 401, and PANT 451. Capstone course in the illustration emphasis area. Survey of historical and contemporary issues, attention to issues of contemporary illustration ideas and expressions, critical thinking and philosophical problems.

**426. Design Studio** (3 cr) Prereq: Senior standing in art or permission. Advanced study through projects commissioned by community and campus organizations.

**821. Graphic Design I** (1-6 cr)

**822. Graphic Design II** (1-6 cr)

## Art-Painting (PANT)

[ES] **251. Beginning Painting I** (3 cr) Stu 6. Prereq: ARTP/ARCH/IDES/JGEN/LARC/TXCD 140A, 140B, 141A, and 141B. Introduction to painting stressing the creative use of form, light, color, and space as bases for expression of observed facts.

[ES] **252. Beginning Painting II** (3 cr) Prereq: PANT 251. Continuation of PANT 251.

**351. Intermediate Painting I** (3 cr) Prereq: PANT 252 or permission. From head, life, still life, and landscape; creative use of form, light, color, and space as bases for expression of observed facts.

**352. Intermediate Painting II** (3 cr) Prereq: PANT 351 or permission. Continuation of PANT 351.

**451. Advanced Painting I** (3 cr) Prereq: PANT 352 or permission. Painting in various media; related concepts of drawing; emphasis on increasingly mature expression and treatment; special techniques and advanced composition.

**452. Advanced Painting II** (3 cr) Prereq: PANT 451 or permission. Continuation of PANT 451.

**851. Painting I** (1-6 cr)

**852. Painting II** (1-6 cr)

## Art-Photography (PHOT)

(ACE 7) [ES] **161. Beginning Photography I** (3 cr) *Credit will not count toward the major in art.*

Introduction to photography as a fine arts medium. Instruction in and use of both camera and darkroom with emphasis on developing insight into seeing photographically.

[ES] **261. Beginning Photography II** (3 cr) Stu 6. Prereq: ARTP/ARCH/IDES/JGEN/LARC/TXCD 140A and 140B, or ARTP/ARCH/IDES/JGEN/LARC/TXCD 141A and 141B.

Introduction to photography as expression. Intensive use of the camera, thorough darkroom instruction and insight into seeing photographically.

[ES] **262. Intermediate Photography** (3 cr) Prereq: PHOT 261. A more intensive investigation of photography as an expressive art medium. Additional technical and aesthetic problems.

[ES] **263. Color Photography** (3 cr) Prereq: PHOT 262. Theory and technique of the color photograph as an art medium.

**361. Advanced Photography I** (3 cr) Prereq: PHOT 262 or permission.

Advanced work in photography with emphasis on individual problems in visual aesthetics and communication.

**362. Advanced Photography II** (3 cr) Prereq: PHOT 361 or permission.

Continuation of PHOT 361.

**363. Advanced Color Photography I** (3 cr) Prereq: PHOT 263 or permission.

Continuation of PHOT 263.

**364. Advanced Color Photography II** (3 cr) Prereq: PHOT 363 or permission.

Continuation of PHOT 363.

**461. Advanced Photography III** (3 cr) Prereq: PHOT 362 or permission.

Continuation of PHOT 362 with emphasis on individual problems.

**462. Advanced Photography IV** (3 cr) Prereq: PHOT 461 or permission.

Continuation of PHOT 461.

**463. Advanced Color Photography III** (3 cr) Prereq: PHOT 364 or permission.

Continuation of PHOT 364.

**464. Advanced Color Photography IV** (3 cr) Prereq: PHOT 463 or permission.

Continuation of PHOT 463.

**498A. Problems in Studio: Color Photography** (1-6 cr, max 24)

Prereq: Permission. *Open to advanced students only.*

Problems in technique and expression in color photography.

**498B. Problems in Studio: Black and White Photography** (1-6 cr, max 24) Prereq: Permission. *Open to advanced students only.*

Problems in technique and expression in black and white photography.

**861. Photography I** (1-6 cr)

**862. Photography II** (1-6 cr)

**\*863. Color Photography I** (1-6 cr) Prereq: Permission.

**\*864. Color Photography II** (1-6 cr) Prereq: Permission.

**\*898A. Advanced Problems in Studio: Color Photography** (1-6 cr) Prereq: Permission.

**\*898B. Advanced Problems in Studio: Black and White Photography** (1-6 cr) Prereq: Permission.

## Art-Printmaking (PRNT)

**[ES] 241. Beginning Printmaking I** (3 cr) Stu 6. Prereq: ARTP/ARCH/IDES/JGEN/LARC/TXCD 140A, 140B, 141A, and 141B. Introduction to the graphic processes emphasizing intaglio and lithography.

**[ES] 242. Beginning Printmaking II** (3 cr) Prereq: PRNT 241, or permission. Continuation of PRNT 241.

**341. Intermediate Printmaking I** (3 cr) Prereq: PRNT 242 or permission.

Intaglio, lithography, and other graphic processes.

**342. Intermediate Printmaking II** (3 cr) Prereq: PRNT 341, or permission. Continuation of PRNT 341.

**343. Art of the Book** (3 cr) Stu. Prereq: PRNT 241.

History and materials of book art and design. Traditional and new print and craft technologies associated with book production. Image and text, sequential design and content, and the book form as object and container of meaning.

**441. Advanced Printmaking I** (3 cr) Prereq: PRNT 342, or permission.

Further work in intaglio, lithography, and other graphic processes.

**442. Advanced Printmaking II** (3 cr) Prereq: PRNT 441 or permission. Continuation of PRNT 441.

**841. Printmaking I** (1-6 cr)

**842. Printmaking II** (1-6 cr)

## Art-Sculpture (SCLP)

**[ES] 211. Beginning Sculpture I** (3 cr) Stu 6. Prereq: ARTP/ARCH/IDES/JGEN/LARC/TXCD 140A and 140B, or ARTP/ARCH/IDES/JGEN/LARC/TXCD 141A and 141B. Introduction to additive processes. Basic skill development using a variety of processes and materials.

**[ES] 212. Beginning Sculpture II** (3 cr) Prereq: SCLP 211. Introduction to subtractive processes. Basic skill development using a variety of mold making processes and materials.

**311. Intermediate Sculpture I** (3 cr) Prereq: SCLP 212, or permission.

Individual work in stone, wood, or terra cotta, with instruction in stone cutting, wood carving, armature building and casting.

**312. Intermediate Sculpture II** (3 cr) Prereq: SCLP 311, or permission. Continuation of SCLP 311.

**411. Advanced Sculpture I** (3 cr) Prereq: SCLP 312, or permission.

Sculpture in various media; emphasis on increasingly mature expression and treatment; special techniques and advanced constructions.

**412. Advanced Sculpture II** (3 cr) Prereq: SCLP 411, or permission. Continuation of SCLP 411.

**811. Sculpture I** (1-6 cr)

**812. Sculpture II** (1-6 cr)

## Art-Special Topics (ARTS)

**198. Special Topics in Studio Art I** (1-6 cr, max 24) Stu. Prereq: Permission.

**198A. Special Topics in Art I** (1-6 cr, max 24) Lec. Prereq: Permission.

**298. Special Topics in Studio Art II** (1-6 cr, max 24) Stu. Prereq: Permission.

**298A. Special Topics in Art II** (1-6 cr, max 24) Lec. Prereq: Permission.

**398. Special Topics in Studio Art III** (1-6 cr, max 24) Stu. Prereq: Permission.

**398A. Special Topics in Art III** (1-6 cr, max 24) Lec. Prereq: Permission.

**498. Special Topics in Studio Art IV** (1-6 cr, max 24) Stu. Prereq: Permission.

**498A. Special Topics in Art IV** (1-6 cr, max 24) Lec. Prereq: Permission.

## Art-Watercolor (WATC)

**[ES] 257. Beginning Watercolor I** (3 cr) Stu 6. Prereq: ARTP/ARCH/IDES/JGEN/LARC/TXCD 140A, 140B, 141A and 141B. Technique of watercolor as a medium in interpreting a variety of subjects.

**258. Beginning Watercolor II** (3 cr) Prereq: WATC 257, or equivalent. Continuation of WATC 257.

**357. Watercolor I** (3 cr) Prereq: WATC 258, or permission. Technique of watercolor as a medium in interpreting a variety of subjects.

**358. Watercolor II** (3 cr) Prereq: WATC 357, or permission. Continuation of WATC 357.

**457. Advanced Watercolor I** (3 cr) Prereq: WATC 358, or permission.

Creative use of watercolor, gouache, or casein in painting; advanced interpretation or expression of visual experience in these media.

**458. Advanced Watercolor II** (3 cr) Prereq: WATC 457, or permission. Continuation of WATC 457.

**857. Watercolor I** (1-6 cr)

**858. Watercolor II** (1-6 cr)

## Art History and Criticism (AHIS)

**(ACE 7) [ES] 101. Introduction to Art History and Criticism I** (3 cr) Survey of the history of art from the earliest times to the end of the Medieval period.

**(ACE 7) [ES] 102. Introduction to Art History and Criticism II** (3 cr)

Survey of the history of art from the Renaissance period to the present.

**[ES/IS] 189H. University Honors Seminar** (3 cr) Prereq: Good standing in the University Honors Program or by invitation. *University Honors Seminar 189H is required of all students in the University Honors Program.*

Topic varies.

**198. Special Topics in Art History** (1-3 cr, max 24) Prereq: Permission.

**[ES] 211. Classical Art and Archaeology** (3 cr) Prereq: Sophomore standing.

Introduction to the art and archaeology of ancient Greece and Italy.

**[ES] 216. Medieval Art** (3 cr) Prereq: Sophomore standing. Introduction to the art of the Middle Ages from the Early Christian to Gothic periods.

**[ES] 221. Italian Renaissance Art** (3 cr) Prereq: Sophomore standing.

Development of Italian art and architecture in the fourteenth, fifteenth and sixteenth centuries.

**[ES] 226. Northern Renaissance Art** (3 cr) Prereq: Sophomore standing.

Introduction to the art of the fifteenth and sixteenth centuries in Northern Europe. Major artists studied include Jan van Eyck, Rogier van der Weyden, Hieronymus Bosch, Pieter Bruegel and Albrecht Dürer.

**[ES] 231. Baroque Art** (3 cr) Prereq: Sophomore standing. Art and architecture in Europe from 1550 to 1700.

**[ES] 246. Modern Art** (3 cr) Prereq: Sophomore standing. Survey of Western painting and sculpture from 1750 to present.

**[ES] 251. American Art to 1865** (3 cr) Prereq: Sophomore standing. Role of the fine arts in creating national identity. How portraiture, genre, history painting, landscape, sculpture, photography, and folk art produced competing definitions of America. Growth of art institutions and patrons, the development of different audiences and how they established and changed expectations for art and artists.

**[ES] 252. American Art 1865-1945** (3 cr) Prereq: Sophomore standing.

The changes in art resulting from the US's transition to an urban, industrial and cosmopolitan society. Careers and styles of individual artists, along with the impact of European art before and after the 1913 Armory Show. How the intersection of artists, patrons, and audiences supported the formation of new institutions and markets for modern art.

**[ES] 256. Latin American Art** (3 cr) Prereq: Sophomore standing. From pre-Columbian through contemporary art.

**[ES] 261. Oriental Art: India, Ceylon, Java, Japan** (3 cr) Prereq: Sophomore standing. Survey of the arts of India arranged according to chronological and cultural development, followed by the related arts of Ceylon and Java; similar survey of the arts of Japan down to the present.

[ES] 262. **Oriental Art: China, Korea, Southeast Asia** (3 cr) Prereq: Sophomore standing. Survey of the arts of China arranged according to chronological and cultural development, followed by similar surveys of the arts of Korea and Southeast Asia.

**286. Archaeological Fieldwork** (3 cr III) Fld. Prereq: Permission. *Art and art history majors must register for a letter grade.* Participation in archaeological field research projects to learn basic field techniques.

**298. Special Topics in Art History** (1-3 cr, max 24) Prereq: Permission.

[IS] 311. **Greek Art and Archaeology** (3 cr) Prereq: AHIS 101 or 211 or permission. Art and archaeology of ancient Greece from the Bronze Age through the Hellenistic period.

[IS] 313. **Roman Art and Archaeology** (3 cr) Prereq: AHIS 101 or 211 or permission. Introduction of the art and archaeology of ancient Italy from the villanovans through the end of the Roman Empire.

[IS] 318. **Late Medieval Art in Europe** (3 cr) Prereq: AHIS 101 or permission. Art in Europe from 1100 to 1500; style and iconography in Gothic art including architecture and architectural sculpture.

[IS] 321. **Early Renaissance Art** (3 cr) Prereq: AHIS 102 or 221 or permission. Introduction to painting, sculpture, and architecture in Italy from the late thirteenth century to the end of the fifteenth century.

[IS] 322. **High Renaissance and Mannerist Art** (3 cr) Prereq: AHIS 102 or 221 or permission. Introduction to the painting, sculpture, and architecture in Italy from the late fifteenth to the mid-sixteenth century.

[ES] 341. **European Art of the 19th Century** (3 cr) From Neoclassicism through Post-impressionism.

**346. European Art of the 20th Century** (3 cr) Prereq: AHIS 102 or 246. European art from 1870 to 1945, focusing on the development of the avant-garde, and on the relationship between art and its historical context.

[ES][IS] 366. **African Architecture** (ARCH 347/547, ETHN 347) (3 cr) Prereq: Sophomore standing. For course description, see ARCH 347/547.

[ES] 388. **Arts of the 20th Century: 1900-1945** (MUNM, THEA 388) (3 cr) AHIS/MUNM/THEA 388 will not count towards the major or minor in studio art and/or art history. Interdisciplinary approach to the enjoyment and understanding of the contemporary (first half of the twentieth century) arts.

[ES] 389. **Arts of the 20th Century: 1945-Present** (MUNM, THEA 389) (3 cr) Lec 3. AHIS/MUNM/THEA 389 will not count toward the major or minor in studio art and/or art history. Interdisciplinary approach to the enjoyment and understanding of the contemporary (1945 to the present) arts.

**390. Directed Individual Readings** (1-9 cr, max 24) Prereq: Junior standing and permission of department chair.

**392. Independent Research in Art History** (1-9 cr, max 24) Prereq: Junior standing and permission of department chair.

**395. Internship in Art History** (1-6 cr, max 6) Prereq: Junior standing and permission of department chair.

**398. Special Topics in Art History** (1-3 cr, max 24) Prereq: Permission.

(ACE 10) **400. Art History Capstone Experience** (3 cr I, II) Prereq: Senior standing and permission. Culminating experience in art history. A comprehensive analysis of the discipline of art history. Builds on material from previous course work. Historiographic and methodological issues.

[IS] 411/811. **Classical Architecture** (3 cr) Prereq: 12 hrs in art history or related disciplines with permission. History and development of architectural orders and styles from ancient Greece and Italy.

[IS] 412/812. **Greek Sculpture** (3 cr) Prereq: 12 hrs in art history or related disciplines with permission. Greek sculpture from the Bronze Age through the Hellenistic periods. Stylistic evolution and classical themes as presented in individual freestanding and architectural sculpture. Techniques, materials, and uses of sculpture.

**413/813. Roman Painting** (3 cr) Prereq: 12 hrs art history or in related disciplines with permission. Development of Roman painting from the Etruscans through the Age of Constantine.

[IS] 418/818. **Gothic Painting and Prints** (3 cr) Prereq: 12 hrs in art history, including AHIS 318, or in related disciplines with permission. Style, iconography, history, and function of painting and prints from ca. 1150 to 1475 in France, Germany, and the Netherlands. Includes manuscript illumination, stained glass, panel painting, woodcuts, and engravings, stressing the development of naturalism before the "Renaissance" in Northern Europe.

[IS] 421/821. **The Italian Renaissance City** (3 cr) Prereq: 12 hrs in art history, or in related disciplines with permission. Exploration of the art and architecture of the Italian city in the late middle ages and Renaissance, with particular attention to civic projects and the role of art in defining the identity, and creating the "myths" of that city.

[IS] 426/826. **Northern Renaissance and Reformation Art** (3 cr) Prereq: 12 hrs in art history, including AHIS 318 or 418, or in related disciplines with permission. Art of the Renaissance and Reformation in Germany and the Netherlands. Stresses the influences of Italian Renaissance Art and the impact of the Protestant Reformation from ca. 1475 to 1575.

[IS] 431/831. **Italian Baroque Art** (3 cr) Prereq: 12 hrs in art history or in related disciplines with permission. Painting, sculpture and architecture in Italy from the late sixteenth to the late seventeenth century.

[IS] 441/841. **Impressionism and Post-Impressionism** (3 cr) Prereq: 12 hr in art history or in related disciplines with permission. French Impressionism and Post-impressionism with consideration of the historical context out of which they emerged. Development of the avant-garde and the changing relationship of the artist to society.

[IS] 446/846. **Art since 1945** (3 cr) Prereq: 12 hrs in art history, including AHIS 102 and 246. Art from 1945 to the present focusing on the development of the avant-garde, the transition from modernism to post-modernism, and the various art world institutions.

[IS] 448/848. **Post-Modernism** (3 cr) Prereq: 12 hrs in art history, including AHIS 102 or 246, and 446/846; or 12 hrs in related disciplines with permission. Developments in art since 1970, exploring the various art styles and the relationship of the artists to their audience and to the institutions of the art world.

[IS] 451/851. **19th-Century American Art** (3 cr) Prereq: 12 hrs art history including AHIS 251 or 341 or permission. Nineteenth century American art and material culture.

[IS] 452/852. **American Art, 1893-1939** (3 cr) Prereq: 12 hrs art history including AHIS 252 or 346 or permission. Early twentieth century American art.

**456/856. Pre-Columbian Art** (3 cr) Prereq: 12 hrs in the history of art or in related disciplines with permission. Emphasizing the Mesoamerican and Andean traditions.

**457/857. Colonial Art of Latin America** (3 cr) Prereq: 12 hrs in the history of art or in related disciplines with permission. Emphasizing New Spain, the Viceroyalty of Peru, and Brazil.

[ES] 471/871. **History of Photography** (3 cr) Prereq: Permission. Introduction to the history of still photography with major emphasis on its development as an art form.

[IS] 472/872. **Photography Since 1960** (3 cr) Prereq: AHIS 471/871 or permission. Movements in photography since 1960 with emphasis on the interaction with art theory and criticism.

[IS] 476/876. **History of Prints** (3 cr) Prereq: 12 hrs in art history, including AHIS 221, 226, or 231, or in related disciplines with permission.

Introduction to the history of prints stressing printmaking techniques, i.e., woodcut, engraving, drypoint, etching, and the makers of prints during the first 300 years of printmaking in Europe. Baldung, Goltzius, Bruegel, and Rembrandt. Major technical developments, such as the introduction of printing colored woodcuts, are included.

**490/890. Directed Individual Reading** (1-6 cr, max 24) Ind. Prereq: Permission of department chair.

**492/892. Independent Research in Art History** (1-6 cr, max 24) Ind. Prereq: Permission of department chair.

**495/895. Internship in Art History** (1-6 cr, max 24) Fld. Prereq: Senior standing and permission of department chair.

**496/896. Advanced Archaeological Fieldwork** (3 cr, max 12 III) Fld. Prereq: AHIS 286 or equivalent, and permission. *Art and art history majors must register for a letter grade.* Further training in archaeological field research techniques.

**498/898. Special Topics in Art History** (1-3 cr, max 24) Prereq: Permission.

**499H. Honors: Special Problems in Art History** (1-6 cr, max 12) Prereq: Candidate for degree with distinction or with high distinction or with highest distinction in the Hixson-Lied College of Fine and Performing Arts.

**\*899. Masters Thesis** (6-10cr) Prereq: Permission.

Refer to the Graduate Bulletin for 900-level courses.

## Dance

**Coordinator:** Susan Levine, 208 Mabel Lee Hall

The bachelor of arts degree is designed to provide a comprehensive arts experience with emphasis on dance. It is appropriate for students who wish to develop performance and technique skills in dance, who are interested in dance as a fine art, and who wish to prepare to choreograph and teach dance. **An audition is required for acceptance as a dance major or minor.** The School of Music should be contacted for audition dates. Auditions are generally held in January and February.

All entering dance majors must register for 200-level technique courses. It is recommended that all majors enroll for both ballet and modern dance every semester. All majors should perform each semester.

**Hours**

<b>ACE Requirements</b> .....	<b>30</b>
<i>All courses must be selected from the lists found under "ACE Courses" on page 383.</i>	
<b>Languages: Classical &amp; Modern</b> .....	<b>0-16</b>
<b>Library 110</b> .....	<b>1</b>
<b>Dance Major Requirements</b> .....	<b>60</b>
Dance Technique .....	16
Dance Theory & History .....	15
Dance Composition & Performance .....	10
Arts Electives .....	19
<b>Electives</b> .....	<b>18-34</b>
<b>Total hours required for graduation</b> .....	<b>125</b>

## Grade Restrictions for Dance

All courses taken to fulfill dance major or minor requirements must be taken for a grade (except those only offered as Pass/No Pass). Students must earn grades of C or better in these courses. Any course in which a student earns a grade of C- or below must be repeated in order to count toward the requirement.

## Requirements for the Major in Dance

**Bachelor of Arts.** Dance major requirements (60 cr)

### A. Dance Technique (16 cr)

- DANC 211. Ballet II (4 cr)
- DANC 212. Modern II (4 cr)
- DANC 312. Modern III (4 cr)
- DANC 412. Modern IV (4 cr)

### B. Dance Theory and History (15 cr)

- DANC 159. Intro to History of Dance (3 cr)
- DANC 228. Music for Dance (3 cr, max 6)
- DANC 338. Dance Kinesiology & Injury Prevention (3 cr)
- DANC 349. History of Dance: 20th Century & Beyond (3 cr)
- DANC 448. Pedagogy (3 cr)

### C. Dance Composition and Performance (10 cr)

- DANC 300. Dance Composition (6 cr)
- DANC 260/460. Repertory, Improvisation & Performance (1 cr, max 8)

### D. Arts Electives (19 cr min)

- Art and Art History (3 cr)
- Music (3 cr)
- Theatre (3 cr)
- Other Arts Electives, including Dance (10 cr)

## Requirements for the Minor in Dance (Plan A) (18 cr)

Students must audition for dance faculty for acceptance as a minor.

- DANC 159 Intro to History of Dance (3 cr)
- DANC 338. Dance Kinesiology & Injury Prevention (3 cr)
- DANC 211. Ballet II (4 cr)
- DANC 212. Modern Dance II (4 cr)
- DANC 260 or 460. Repertory, Improvisation, & Performance (2 cr)
- DANC 312. Modern Dance III (2 cr)

## Courses of Instruction

### Dance (DANC)

#### 101. Beginning Ballet (1 cr) For students with no previous dance training.

Basic technique and practice of classical ballet, including the ballet vocabulary.

#### 112. Modern Dance and Ballet I (2 cr, max 16) Stu 4. DANC 112 will not count toward a major or minor in DANC.

Earliest stages of studio training in Modern Dance and Ballet. Application of the fundamentals and principles of ballet movement and vocabulary. Beginning modern dance technique with emphasis on mastering the fundamentals of movement. Style, phrasing, musicality, personal interpretation, and improvisation.

#### 127. Social Dance I (1 cr)

Introduction to popular forms of social dance.

#### [ES][IS] 159. Introduction to History of Dance (3 cr) Lec 3.

Historical survey of the art of dance. The various forms of dance. The roots of contemporary ballet and the evolution of modern dance.

#### 211. Ballet II (2 cr, max 16) Stu. Prereq: DANC major or minor. Continuation of DANC 112.

The principles of classical ballet technique and vocabulary.

### 212. Modern Dance II (2 cr, max 16) Stu 3. Prereq: DANC major or minor. Continuation of DANC 211.

The vocabulary and concepts of the modern dance idiom. Improvisational techniques, strength, and facility of movement.

#### 228. Music for Dance (3 cr, max 6) Lec 3. Prereq: Dance major; DANC 211 and 212. DANC 228 includes written and oral presentations.

Rhythmic reading and analysis, dance accompaniment techniques, music resources and the interrelationship of sound to movement. The use of percussion instruments and sound inventions in the theory and practice of accompaniment for dance.

#### 260/460. Repertory, Improvisation and Performance (1 cr, max 8) Stu 8. Prereq: DANC major or minor, or others by permission. DANC 260/460 requires active participation in dance productions. Rehearsal of dance repertory. Participation in the creation of original works. Application of improvisational techniques.

#### 300. Dance Composition (3 cr, max 9) Stu 3. Prereq: Dance major.

Structural organization of the elements of movement. Theory and practice in the craft of dance composition. Concepts, content, and their perceptual validity through movement.

#### 311. Ballet III (2 cr, max 16) Stu 3. Prereq: DANC 211. Continuation of DANC 211.

Application of the classical ballet skills.

#### 312. Modern Dance III (2 cr, max 16) Stu 3. Prereq: DANC 212. Continuation of DANC 212.

Modern dance techniques. Improvisational techniques, strength, facility of movement, and the development of artistry.  
[ES] 338. Dance Kinesiology and Injury Prevention (3 cr) Lec 3. Prereq: Dance major or minor; DANC 211 and 212. DANC 338 requires the laboratory application and the development of an individual conditioning program. Biomechanical principles affecting the structure and function of the musculoskeletal system. Causes, treatment methods, and prevention of dance-related injuries. Body conditioning programs for injury prevention.

#### [ES][IS] 349. History of Dance: 20th Century and Beyond (3 cr) Lec 3. Prereq: DANC 159.

Emergence and evolution of modern dance since the beginning of the twentieth century, from its infancy to the present day, modern dance emergence from ballet. The ways that contemporary ballet is influenced by modern dance.

#### 398. Special Topics in Dance (1-3 cr, max 6) Lec. DANC 398 requires analysis and annotation of a major original choreographic work, a solo performance in a major dance work and participation in a technique course offered with a guest artist in a medium not usually offered in the program, or an advanced research project.

#### 411. Ballet IV (2 cr, max 16) Stu 3. Prereq: DANC 311.

Application of advanced classical ballet technique and performance styles.

#### 412. Modern Dance IV (2 cr, max 16) Stu 3. Prereq: Dance major or minor; DANC 312.

Application of advanced modern dance techniques to styles of performance. Repertory work and extended preparation of complex movement phrases.

#### [IS] 448. Dance Pedagogy (3 cr) Lec 3. Prereq: Senior standing; DANC major; two 300-level DANC technique courses.

Methods and materials for the teaching of dance. Alignment analysis of the theory and execution of technique leading to structuring exercise progressions, developing lesson plans, creating course outlines. Teaching observations and teaching practice.

#### [IS] 469. Seminar in Dance (3 cr) Prereq: Senior standing and DANC 159 and 349.

Survey and history of major critical writings on dance with emphasis on a sound and supportive approach to viewing, reviewing, and critically analyzing the dance art form.

#### 496. Independent Study/Internship (1-6 cr sem, max 9)

Field work in dance, dance teaching, or a specifically arranged course of dance study under the supervision of a faculty adviser.

#### 498. Practicum in Dance Teaching (1-3 cr, max 6) Prereq: DANC 448 or permission.

Supervised application of pedagogic principles.

## Interdisciplinary Studies

Intended for students seeking advanced levels of scholarship, this specialized course of study leads to a bachelor of arts degree. It allows a student, with the supervision and approval of an academic adviser, to design an academic program that differs from the established majors offered by the College. The degree program must be based on a clearly defined problem area, a defined body of thought, or a specific educational goal. Courses outside the College may be used, however, all College requirements (including the ACE requirements) must be fulfilled. (See graduation and degree requirements, pages 329.)

Students must be admitted as a major into one of the academic units and successfully complete one year of the home unit's core curriculum before applying for entrance into the Interdisciplinary Studies program. A listing of the required courses is available in each academic unit's administrative office.

Application forms, available from the associate dean (102 Woods Art Building), require a statement of goals and purpose by the applicant, a proposed course of study, a statement of support from the student's academic adviser, and approval signatures of the unit's Chief Adviser and the College Advising Coordinator. Acceptance into the program is determined by the administrative head of the academic unit and the associate dean. Upon acceptance into the program, the student's academic adviser must complete a College-Degree-Major-Adviser Change Form to be filed in the office of Registration and Records. Significant changes in the course of study must be approved by the administrative head of the home academic unit. The adviser is responsible for coordinating the program with other concerned departments.

## Requirements for the Major in Interdisciplinary Studies

### Bachelor of Arts Degree

Students are required to complete a minimum of 45 credit hours of their proposed course work at UNL after being admitted to the program.

	Hours
ACE Requirements	30
All courses must be selected from the lists found under "ACE Courses" on page 383.	
Languages: Classical & Modern	0-16
Library 110	1
Major Area of Study	54
Minimum 24 hrs in one department	
Minimum 30 hrs at the 300/400 level	
Maximum 12 hrs of independent study courses	
Maximum 6 hrs of Pass/No Pass courses	
Electives	24-40
Total hours required for graduation	125

## Music

**Director:** John W. Richmond, 120 Westbrook Music Building

**Professors:** Bailey, Barger, Barnes, Fought, Harler-Smith, Lefferts, McMullen, Nierman, Oliva, Richmond, Rometo, Starr

**Associate Professors:** Anderson, Barber, Becker, Clinton, Eklund, Foley, Fuelberth, Moore, Neely, Potter, Shomos, D. White, R. White, T. White, Woody, Wristen

**Assistant Professors:** Bushard, Butler, Haar, Hanrahan, Hibbard, Kleppinger, Marks, A. Mattingly, McCray, Richards

**Assistant Professor of Practice:** Bazan

**Assistant Professors of Research/Creative Activity:** Beaver, Fischer, Sirota, Yoon

**Senior Lecturers:** Belflower, Chang-Barnes, Fuller, Narboni

**Lecturers:** Bouffard, Bush, Falcone, Larson, J. Mattingly

The School of Music, which includes the Dance Division, offers a variety of courses and programs to students on the University campus. Three major programs are available in music. (For information about the BA in dance, refer to "Dance" on page 334.) Students choosing the bachelor of arts degree can expect to include a substantial amount of musical study encompassing about three years. Students wishing to take a course of study in music that will prepare them for graduate study and eventually a professional career in music theory, music history, composition, piano pedagogy, or performance, should take a bachelor of music degree. Students wanting to teach music in K-12 schools should pursue a bachelor of music education degree. This degree leads to an endorsement (certification) in vocal and instrumental music with an emphasis in choral or instrumental music.

It is also possible to minor in music.

**An audition is required for acceptance into either the minor program or the degree programs.** Good preparation in music from high school or from private study is a prerequisite. The School of Music should be contacted for audition dates. Auditions for admission and scholarship are held in January and February.

**Applied Music.** Registration for applied music lessons is possible only after an audition before a panel of School of Music faculty members. It is recommended that prospective music students planning to enter in the fall submit their applications for admission to the University by January 15 and that they audition before March 15. (Students interested in a music scholarship should audition and apply for scholarship consideration before March 15.) Prospective music majors should audition prior to April 1. After this date, space for new students may be extremely limited in many areas. All auditions are arranged through the School of Music.

**Applied Music for Beginners.** Students who are not music majors or minors and desire to take lessons should see the course descriptions under Music for Non-Majors.

## Upper Division Admission Requirement

### Requirements for Continuing Study Toward a Music Degree

Music majors are required to demonstrate adequate skills in applied music, functional keyboard, theory and sight singing before they may continue toward the completion of a BM, BME or BA degree in music. The following prerequisites are in place to secure this requirement.

### Applied Music—Upper Divisional Qualifying Jury

Music majors must pass the **Upper Divisional Qualifying Jury** to be admitted into 300-level applied music. The UDQJ is usually taken in the fourth semester of applied study.

#### Part I - Basis Skills

Faculty evaluate the student's minimal capabilities, including the ability to sight read and perform scales and arpeggios, to determine if the student may continue as a music major.

#### Part II - Musicianship

Faculty evaluate the student's performance to determine if the student may continue as a music major.

#### Evaluation

The UDQJ is judged Pass/No Pass, with pass meaning that the student's basic musical skills and musicianship are judged to be at least minimal for his/her instrument. The jury members in each area will use a general consensus approach in determining Pass/No Pass. A no pass on the UDQJ will indicate an interpretation by the faculty that the student has not completed the requirements for the Upper Divisional Qualifying Jury, resulting in a formal grade of **incomplete**. The student then has two additional juries to remove the incomplete. The student may continue to register for applied study at the 200 level for a maximum of two semesters until the incomplete is removed. After one year, the incomplete will expire, causing the grade to revert to a D or F. If the student passes the re-take before the beginning of the 2nd week of classes, he/she will be permitted to register for 300-level applied music courses for that semester.

**NOTE:** A re-examination will be scheduled only during the first week of classes following a semester in which the UDQJ was failed or during regular scheduled jury times at the end of a semester.

The status of music major is provisional, pending a satisfactory completion of the UDQJ. The result of the UDQJ is validated on the **UDQJ JURY** form with faculty signatures, and filed in the music office.

**Functional Keyboard, Theory and Sight Singing.** Students must earn a grade of C or better in Musicianship IV (MUSC 266/266A) and earn a grade of C or better in Piano Skills (MUAP 232) or pass the piano proficiency exam to be admitted into 300- or 400-level academic music courses.

### Grade Restrictions for Music

All courses taken to fulfill music/music education major or music minor requirements must be taken for a grade (except those courses only offered as Pass/No Pass). Students must earn grades of C or better in these courses. Any course in which a student earns a grade of C- or below must be repeated in order to count toward the requirement.

## Music Degree Requirements

### Music Core Curriculum

A three-year sequence of courses called the **Music Core Curriculum** is at the heart of the School of Music instructional program. Music Core Curriculum courses may not be taken for a Pass/No Pass grade.

The first year of study provides, within a comprehensive framework, a foundation for the successful study of music in an academic environment. Courses include an historical overview and concentrate on music fundamentals, keyboard and aural skills, and conducting. Courses are taken concurrently in each of two semesters beginning with the fall semester.

	Hours
<b>Music Core Curriculum</b> .....	27
MUSC 064 .....	0
MUSC 101 .....	3
MUSC 131 .....	1
MUSC 132 .....	1
MUSC 165 .....	2
MUSC 165A .....	1
MUSC 166 .....	3
MUSC 166A .....	1
MUSC 265 .....	3
MUSC 265A .....	1
MUSC 266 .....	3
MUSC 266A .....	1
MUSC 274 .....	1
MUSC 365 .....	3
MUSC 366 .....	3
<b>MUSR 068 Recitals (7 semesters)</b> .....	0

### Requirements for the Bachelor of Arts Degree

This degree offers a choice between two options: a) a research track, or b) a performance track. The performance track will culminate with a recital normally given during the sixth (and last) semester of study. The research track will culminate in the presentation of a final research project or document.

Both the research and the performance options require that a minor area of study be included in the program of studies.

### Summary of Requirements—minimum 125 hours

	Hours
<b>ACE Requirements</b> .....	30
<i>All courses must be selected from the lists found under "ACE Courses" on page 383.</i>	
Languages—Classical/Modern .....	0-16
Library 110 .....	1
<b>Music Core Curriculum</b> .....	27
<b>Musical Performance</b> .....	18-20
Diction and Literature (voice emphasis) .....	2
<i>Take at least one of the following courses:</i>	
MUSC 125 English & Italian Diction & Literature (2 cr)	
MUSC 126 German Diction & Literature (2 cr)	
MUSC 127 French Diction & Literature (2 cr)	
<b>Performance Track</b>	
Applied Area .....	12
Ensembles .....	6
Junior Recital .....	0
<b>Research Track</b>	
Applied Area .....	10
Ensembles .....	6
Document .....	2
<b>Minor(s)</b> .....	18-24
<b>Electives</b> .....	7-31
<b>Total Hours Required for Graduation</b> .....	125

## Requirements for the Bachelor of Music Degree

The bachelor of music degree is recommended for students who have the desire and capacity to reach high standards of achievement in performance study. Students with creative talent may elect courses in composition and develop their abilities as composers.

	Hours
<b>ACE Requirements</b>	<b>30</b>
<i>All courses must be selected from the lists found under "ACE Courses" on page 383.</i>	
<b>Languages: Classical and Modern</b>	<b>0-16</b>
<b>Library 110</b>	<b>1</b>
<b>Music Core Curriculum</b>	<b>27</b>
<b>Musical Performance</b>	<b>31-33</b>
Applied area (lower-level 2 cr each; upper-level 3 cr each)	20
Piano Proficiency	2
MUAP 231 (1 cr)	
MUAP 232 (1 cr)	
MUSR 090 (Junior Recital)	0
MUSR 490 (Senior Recital)	1-3
Ensembles	8
<b>Pedagogy, Literature, &amp; Diction</b>	<b>2-9</b>
MUSC 424 & MUSC 476 (3 cr each) (Piano)	
MUSC 462 (2-3 cr) (WW/Brass/Perc/Strings)	
MUSC 462Z (2 cr) (Guitar)	
MUSC 474 & MUSC 475 (3 cr each) (Organ)	
MUSC 125, 126, & 127 (2 cr each) & MUSC 470 (3 cr) (Voice)	
<b>Theory/History/Literature</b>	<b>6-10</b>
<b>Capstone Course</b>	<b>3</b>
MUSC 445 (3 cr)	
<b>Music Electives</b>	<b>4-8</b>
<b>Electives</b>	<b>0-16</b>
<b>Total Hours Required for Graduation</b>	<b>125</b>

## Requirements for the Bachelor of Music Education Degree

The bachelor of music education leads to an endorsement (certification) in vocal and instrumental music. This degree is recommended for students who wish to teach music in K-12 schools.

The requirements for the degree include:

	Hours
<b>ACE Requirements</b>	<b>30</b>
<i>All courses must be selected from the lists found under "ACE Courses" on page 383, unless noted otherwise.</i>	
Outcome 1: any approved course	
Outcome 2: any approved course	
Outcome 3: any approved course	
Outcome 4: any approved course	
Outcome 5: any approved course	
Outcome 6: must be SOCI 217	
Outcome 7: must be MUSC 101	
Outcome 8: any approved course	
Outcome 9: must be MUSC 280	
Outcome 10: must be MUED 403	
<b>Library 110</b>	<b>1</b>
<b>Electives</b>	<b>3</b>
any course that is not from music or education	
<b>Music Core</b>	<b>27</b>

### Professional and Music Education Requirements.....41

NOTE: Students preparing for teaching careers will enroll in the following professional courses. Careful planning for the sequencing of these courses is of utmost importance. Students must consult their adviser regularly to be sure their programs are properly scheduled.

MUED 201.....	3
MUED 244.....	3
MUED 297.....	1

Admission to the Music Teacher Education Endorsement Program is required prior to the following:

MUED 343.....	2
MUED 344.....	3
MUED 345.....	3
MUED 346.....	3
MUED 374.....	3
MUED 397A.....	1
MUED 397B or 397D.....	1
MUED 401.....	3
MUED 403.....	3
MUED 470.....	3
MUED 497D or 497T.....	6
MUED 497D or 497T.....	1
MUED 497Y.....	1
MUED 497Z.....	1
<b>Music K-12 Endorsement Requirements.....</b>	<b>29</b>
Applied Music.....	22
Applied Area (14 cr)	
MUAP 231 & 232 or demonstrated proficiency (2 cr)	
MUAP 235, 236, 237, 238, 239, 240 (6 cr)	
Ensembles.....	7
Recital (MUSR 090 or 091).....	0
(Music education students cannot present student recitals during student teaching)	
Total Hours Required for Graduation.....	125

### Additional BME Requirements: Admission to Music Teacher Education Program

Admission to the Music Teacher Education Program is a prerequisite for a music education major to enroll in any 300 or 400 level music education courses. Admission is competitive and enrollment is limited. Admission requires meeting all of the following criteria:

1. Completion of at least 42 credit hours with a minimum 2.5 GPA.
2. Completion of MUED 201 and MUED 244 with a minimum grade of "C" and MUED 297 with a Pass.
3. Documentation of proficiency in reading, writing, and mathematics through successful completion of a basic skills examination that meets the Nebraska Department of Education competency requirement.
4. Passing the Applied Music—Upper Divisional Qualifying Jury.
5. Completion of MUSC 266, MUSC 266A, and MUAP 232 (or piano proficiency).
6. Completion of a personal and professional fitness self-disclosure form and formal criminal history background check (fee required). (Undertaken during MUED 201 and MUED 297.)
7. Successful completion of a screening interview and digital portfolio review with music education faculty. (Undertaken during MUED 244.)

### Interview and Portfolio Review Process

Through course work taken during the freshman and sophomore years, each student will compile a digital portfolio to give evidence of his or her potential as a music teacher. This portfolio will include an autobiographical essay, an educational philosophy statement, a professional resume, and sample lesson plans. The music education faculty will review the digital portfolio prior to conducting a screening interview. During the interview students will demonstrate their suitability to a career in music education by responding to

questions posed by the faculty. Feedback will be provided to each student detailing the results of the faculty's assessment.

Students will be admitted into the Music Teacher Education Program during the spring semester. If a student fails to meet any of the above criteria, they will meet with the music education faculty to determine a course of remediation if applicable. If a student wishes to contest the decision of the music education faculty, they may appeal to the director of the School of Music.

### Admission to Student Teaching

Student teaching is required for all students who are candidates for an appropriately endorsed Nebraska Teacher's Certificate. Students who plan to student teach during the fall semester must apply to the coordinator of Music Field Experiences by the preceding March 1. Students who plan to student teach during the spring semester must apply by the preceding October 1.

During their student teaching semester, students are to be enrolled exclusively in courses that comprise the student teaching experience (MUED 403B, 497D or 497T, 497Y, and 497Z). Students wishing to enroll in a degree requirement course while student teaching (in order to graduate at the end of the semester) may do so only with the permission of the director of the School of Music. Students cannot enroll in classes that are not required for their degree.

The removal of an incomplete in student recitals (MUSR 090, 091, or 490) during student teaching must have prior approval from the director of the School of Music.

The basic requirements for admission to student teaching are:

1. Matriculation in the Hixson-Lied College of Fine and Performing Arts, the Graduate College, or dual matriculation in the Hixson-Lied College of Fine and Performing Arts and another college.
2. Admission to the Music Teacher Education Program.
3. Senior standing (89 hours or more) with a minimum cumulative 2.5 GPA.
4. Completion of all 300- and 400-level MUED courses: MUED 343, MUED 344, MUED 345, MUED 356, MUED 374, and MUED 470, with a minimum GPA of 2.5 and no grade below C+ (2.33).
5. Completion of all 300- and 400-level practica: MUED 397A, 397B/D, and MUED 497D/T, each with a grade of Pass.
6. Completion of a criminal history check that will be conducted by an independent party (fee required).

The basic program for student teaching in music provides for a full-day experience on a semester basis.

### Student Teaching Placement

Student teachers are placed in many school districts in Lincoln and surrounding areas. Out of state student teaching is also possible. **Students should be aware that they may be assigned to a school outside the Lincoln area for student teaching.** While student preferences for location will be considered, not all personal preferences can be met.

## Criminal History/Background Check

All students will be required to have a criminal history/background check completed no earlier than 90 days prior to the first day of their student teaching experience. This will be at the expense of the student. The applications for acceptance into the music teacher education program and into student teaching also require completion of a self-disclosure form.

## Removal from Student Teaching

Students participating in practicum or student teaching assignments may be removed from their assigned schools if their conduct suggests a lack of professional commitment and presents a negative influence on the well-being or learning of the students in the schools. If such a problem occurs, the student in question will be removed by the coordinator of Music Field Experiences at the request of the cooperating teacher, building principal, and the university supervisor. In such cases, a written report stating the problem and efforts to correct the situation will be forwarded to the Certification Officer for the College of Education and Human Sciences.

Any student removed from a practicum or student teaching assignment may appeal that decision by submitting a written request to the director of the School of Music within 30 days of the removal. The director will schedule a meeting, request pertinent information from the coordinator of Music Field Experiences, and notify the student several days in advance of the scheduled appeal meeting. Students are advised of their right to seek legal advice and may personally attend the appeals meeting. The decision will be forwarded in writing to the student, to the coordinator of Music Field Experiences, the director of Field Experiences for the College of Education and Human Sciences, and to the dean of the College.

## Moral Character and Safety Concerns

Teaching is a profession that requires its potential candidates to be individuals of integrity. Prospective teachers must be able to demonstrate that they are individuals of strong moral character who can make mature decisions for themselves and for their students. Teachers are responsible for the education, safety and well-being for anyone in their charge. Therefore, the Hixson-Lied College of Fine and Performing Arts is interested in training future teachers who show a high degree of moral character and the ability to act responsibly. These individuals must be able to serve as representatives of our College and the University of Nebraska-Lincoln.

With this in mind, should the College discover behavior, which in its reasonable judgment, establishes on the part of the candidate a lack of integrity, questionable moral/ethical character, or otherwise indicates a potential of risk to young persons and others in the educational community, the Hixson-Lied College of Fine and Performing Arts reserves the right to deny entry to or dismiss anyone from any program which leads to certification. More specifically, these kinds of behavior shall be adequate foundation to deny any candidate or potential candidate from participation in any practicum, pre-practicum, student teaching,

or similar field experience, since the interests and safety of the children and young people present in the classroom, schools, and other venues where these practicum experiences take place are paramount.

Problematic behaviors, which the Hixson-Lied College of Fine and Performing Arts reasonably determines renders the candidate a risk to the educational community or demonstrates a likelihood of illegal activity, may be established by any credible means, including the facts surrounding a record of arrests and/or convictions.

Similarly, behaviors which result in a finding by a court or other governmental body that the individual is:

- a mentally ill and dangerous person;
- mentally incompetent to stand trial;
- acquitted of criminal charges because of insanity;
- an incapacitated person;
- a person in need of a guardian or conservator, or;
- a person unable to manage his or her property due to mental illness, mental deficiency, or chronic use of drugs or chronic intoxication are the kind of behaviors which are likely to disqualify a candidate from participation in practicum experiences and other Hixson-Lied College of Fine and Performing Arts programs.

## Nebraska State Department of Education Policy Pertaining to Students with Felony or Misdemeanor Convictions

The Nebraska Department of Education policy requires that a person with felony convictions or misdemeanor convictions involving abuse, neglect, or sexual misconduct shall not be allowed to participate in pre-student teaching laboratory and classroom experiences or student teach without approval by the Board of Education. To comply with this policy, the Hixson-Lied College of Fine and Performing Arts will require each student to affirm under oath that he or she does not have any convictions in the above named areas prior to each field placement. If a student does have any felony or misdemeanor convictions, he/she is required to meet with Dr. Tom Wandzilak, Certification Officer, Student Services Center, 104 Henzlak Hall, 472-8626, as soon as possible. Students with questions pertaining to convictions should contact Dr. Wandzilak.

## Application for a Nebraska Teaching Certificate

To actively engage in the teaching profession, a candidate must fulfill both the College degree requirements and the professional certification requirements of the State of Nebraska. Undergraduate students apply for the teaching certificate at the same time they apply for the baccalaureate degree in 109 Canfield Administration Building. Post-baccalaureate students completing teacher certification apply to the Chief Adviser for Music Education, Westbrook Music Building.

## Graduation Without Certification

In rare cases, permission may be granted for a student to graduate without a recommendation for certification. This provision is for the student who does not qualify for, or is removed from, student

teaching. However, there are times when, because of illness or other extreme situations, a student will decide not to complete all professional requirements. In this situation, the student should contact his or her adviser, then complete a formal request to the coordinator of Music Field Experiences to be allowed to graduate without completing all certification requirements. If permission is granted, the student is expected to complete all professional requirements except student teaching. This includes a passing grade in all methods courses. If a student fails to complete at least one half of the student teaching assignment, the individual will be required to complete a culminating project not to exceed 6 credit hours.

Any student who graduates without a recommendation for certification will not be recommended for teacher certification in any state. In addition, the student will not be eligible for graduation with honors. If, at some future time, the student wishes to complete certification requirements, he or she must first appeal for readmission to the music teacher education program. At least one semester must pass after graduation before the appeal can be made. If the appeal is granted, the student will be treated as a readmitted student and will complete all requirements in effect at the time of reentry, including passing grades in all methods courses.

## Requirements for the Minor in Music (Plan A) (19 cr)

- Students **must audition** for School of Music faculty for acceptance as a minor in music.
- Two semesters of MUSR 068 (0 cr) Consecutive applied music courses (4 cr) Approved ensemble courses (4 cr) MUSC 101, 131, 165, 165A, 166, and 166A (MUSC 165/165A and 166/166A must be taken in the same academic year)

NOTE: All courses must be taken for a grade.

## Requirements for the Minor in Music Technology (Plan A) (19 cr)

### Music Major Only

- Students must file a program of study for the minor in music technology within completion of the first 3 credits—contact the School of Music.
- CSCE 190 Special Topics: Multimedia in Computing (3 cr) or other computing-based course with adviser approval  
MUED 482 Music Technology: Foundations & Principles (3 cr)  
MUED 483 Music Technology: Advanced Techniques & Applications (3 cr)  
MUSC 398 Special Topics: Capstone Project (1 cr)  
Technology-based electives with adviser approval (9 cr)

NOTE: All courses must be taken for a grade.

## Courses of Instruction

### Core Curriculum (MUSC)

**025. English and Italian Diction and Literature** (MUSC 125) (0 cr) Stu 2.

For course description, see MUSC 125.

**026. German Diction and Literature** (MUSC 126) (0 cr) Stu 2.

For course description, see MUSC 126.

**027. French Diction and Literature** (MUSC 127) (0 cr) Stu 2.

For course description, see MUSC 127.

**064. Senior Assessment in Music** (0 cr) Lec. Prereq: MUSC 366 or equivalent. *Pass/No Pass only.*

Demonstration of knowledge in music theory and history through completion of the Major Field Test in Music.

(ACE 7) [ES][IS] **101. Introduction to Music** (3 cr) Lec 3. Prereq: Music major or minor; parallel MUSC 131, 165 or 165H, 165A, and LIBR 110. *Open to music majors and minors only.*

Introduction to the degree programs in music and resources for the study of music at the university level. Historical, social, and stylistic views of music in western and non-western cultures.

Significance of music in cultural history, and the understanding of music as aesthetic expression. How to listen to and appreciate the human and cultural values of music.

**125. English and Italian Diction and Literature** (MUSC 025) (2 cr) Stu 2.

The correct pronunciation and diction for singing in Italian and English. Some of the art songs that comprise the standard Italian and English vocal literature.

**126. German Diction and Literature** (MUSC 026) (2 cr) Stu 2.

The correct pronunciation and diction for singing in German. Some of the art songs that comprise the standard German vocal literature.

**127. French Diction and Literature** (MUSC 027) (2 cr) Stu 2.

The correct pronunciation and diction for singing in French. Some of the art songs that comprise the standard French vocal literature.

**131. Keyboard Skills I** (1 cr) Prereq: Parallel MUSC 165 and 165A. Introduction for developing functional piano technique for application to music theory, music reading, harmonization, improvisation, and other practical skills.

**132. Keyboard Skills II** (1 cr, max 1) Prereq: MUSC 131; Parallel MUSC 166 and 166A.

Continued development of functional piano skills such as sight-reading, harmonization, and improvisation.

**165. Musicianship I** (2 cr) Prereq: Permission; parallel with MUSC 131 and 165A.

Beginning fundamentals of music. Beginning theory (notation, rhythm, and meter, pitch and melody, harmony and form), overview of historical style periods and musics of other cultures.

**165A. Musicianship I Laboratory** (1 cr) Parallel with MUSC 131 and 165.

Intensive drill in skills (ear training, sight singing, and keyboard) to accompany MUSC 165.

**165H. Honors: Musicianship I** (3 cr) Prereq: Good standing in the University Honors Program or by invitation; parallel: MUSC 131.

Fundamentals of music (notation, rhythm and meter, pitch, harmony) and intensive drill in skills (ear training, sight singing, and keyboard) to accompany written concepts. The application of fundamentals to listening, performing, and thinking about music, in seminars conducted by School of Music faculty.

**166. Musicianship II** (3 cr) Lec 3, lab 3. Prereq: MUSC 165. Parallel: MUSC 166A.

Diatonic harmony, introduction to modulation, species counterpoint, introduction to form and analysis (compositional processes and small forms).

**166A. Laboratory—Musicianship II** (1 cr, max 1) Parallel with MUSC 166.

Intensive drill in skills (ear training, sight singing, and keyboard) to accompany MUSC 166.

**265. Musicianship III** (3 cr) Prereq: MUSC 166; parallel MUSC 265A.

Chromatic harmony; continued study of modulation; invention and fugue; continued study of form and analysis (sonata, rondo, and concerto).

**265A. Laboratory—Musicianship III** (1 cr) Parallel MUSC 265. Intensive drill in skills (ear training, sight singing, and keyboard) to accompany MUSC 265.

**266. Musicianship IV** (3 cr) Prereq: MUSC 265; parallel MUSC 266A.

Continued study of chromatic harmony (later nineteenth century practice) and of form and analysis (Lied, theme and variation). Twentieth century materials and techniques (new tonal resources, atonality).

**266A. Laboratory—Musicianship IV** (1 cr) Parallel MUSC 266. Intensive drill in skills (ear training, sight singing, and keyboard) to accompany MUSC 266.

**274. Beginning Conducting** (1 cr) Prereq: Sophomore standing; MUSC 166 or 166A.

Introduction to conducting, score analysis, score reading, baton technique, traditional patterns and expressive use of gestures.

[ES][IS] **365. Music History and Literature I** (3 cr, max 3) Prereq: For BM and BME degrees: MUSC 266, 266A, and MUAP 232. For BA degree (with a music major): MUSC 132, 266 and 266A. For BA degree (with a business emphasis): MUSC 132, 265 and 265A. *Open to music majors only.*

Music of the Middle Ages, Renaissance and Baroque. An examination of style and social context from Gregorian chant through the mid-eighteenth century.

[ES][IS] **366. Music History and Literature II** (3 cr, max 3) Prereq: MUSC 365 or permission.

Music of the Classic and Romantic eras and the twentieth century. Style and social context from mid-eighteenth century to the present.

### Composition (MUCP)

A student may have an emphasis in music composition, however, he/she must be accepted through a performance audition in an applied music area of the student's choice. With the permission of the composition faculty, up to 16 hours credit may be substituted for the applied music requirement.

**183. Composition I** (2 cr, max 2) Prereq: Permission.

**184. Composition II** (2 cr, max 2) Prereq: Permission.

**260. Beginning Songwriting** (3 cr) Prereq: MUSC 171 or permission. *Student must have some musical background which should include rudimentary knowledge of musical notation, and the ability to perform on an instrument (piano or guitar).*

Designed for the self-motivated student interested in the composition and notation of original vocal and instrumental music.

**283. Composition III** (2 cr) Prereq: MUSC 184.

**284. Composition IV** (2 cr) Prereq: MUSC 184.

**382. Fundamentals of Composition** (3 cr, max 3) Prereq: MUSC 266. *Not intended for composition majors.*

Short composition exercises to review tonal musical materials and to bridge the gap to exercises in twentieth century compositional techniques. Assignments on tonal harmony, chromaticism, the developmental process, microforms and macroforms, Common Practice Period and expanded chord vocabulary, new scale resources, serial techniques, and indeterminate procedures in the twentieth century.

**383. Composition V** (2-3 cr, max 3) Prereq: MUSC 284 or equivalent and permission.

**384. Composition VI** (2-3 cr, max 3) Prereq: MUSC 284 or equivalent and permission.

**483. Composition VII** (2-3 cr, max 3) Prereq: MUSC 384.

**484. Composition VIII** (2-3 cr, max 3) Prereq: MUSC 384.

Refer to the Graduate Bulletin for 900-level courses.

### Independent Study, Seminars, or Thesis (MUSC)

(ACE 7) [ES][IS] **189H. University Honors Seminar** (3 cr, max 3) Prereq: Good standing in the University Honors Program or by invitation. *University Honors Seminar 189H is required of all students in the University Honors Program.*

Topic varies.

**198. Special Topics in Music** (1-4 cr, max 24)

**384. Research Proposal Development** (1 cr, max 1) Lec 1.

Investigation of topics in music, and the selection of one topic, for the purpose of preparing a proposal for a research document or undergraduate thesis.

A. **BA in Music Research Track** (1 cr) Lec 1.

B. **BM in Music History** (1 cr) Lec 1.

E. **BM in Music Theory** (1 cr) Lec 1.

**398. Special Topics in Music** (1-4 cr, max 24) Prereq: Permission. Investigation of selected topics in music.

**494/894. Music Internship** (1-3 cr, max 6) Prereq: Permission. Supervised practicum and/or field work in an area related to music under the direction of a university staff/faculty member and a cooperating professional in the particular area(s) of interest.

**498/898. Special Topics in Music** (1-4 cr, max 24) Lec.

**499. Undergraduate Thesis** (1-3 cr, max 6) Prereq: Permission.

**499H. Honors: Special Problems** (1-4 cr, max 8) Prereq: Open to candidates for degrees with distinction, with high distinction, and with highest distinction in the Hixon-Lied College of Fine and Performing Arts.

**899. Masters Thesis or Original Composition** (1-6 cr)

Refer to the Graduate Bulletin for 900-level courses.

### Music Education (MUED)

**201. Introduction to Music Education** (3 cr I) Lec 3. Prereq: Parallel: MUED 297.

Issues approach to identifying and analyzing the role and function of the school in American society with specific attention to music education. Orientation to music education as a career; skill development in music teaching; and professional communication via digital portfolio development.

**244. Music Learning and Development** (3 cr II) Prereq: MUED 297.

Concepts of human development (cognitive, psychomotor, affective and social) affecting musical learning across childhood and adolescence. Principles of motivation, skill development, and assessment of learning as they relate to educational practices in music.

**282. Music Technology: An Introduction and Overview** (1 cr) Prereq: TEAC 331.

Introductory course that provides the music student with basic skills and understanding of computers for use in music processing (basic sequencing and notation) as well as the use of the Internet for music research and music education.

**297. Professional Practicum Experiences** (1-2 cr, max 2)

Guided participation and/or observations in schools and/or agencies offering programs for children/youth.

**343. Music Composition Methods** (2 cr I) Prereq: MUED 201 and 297.

Instruction and guided practice in teaching music composition and production at the elementary and secondary level. Writing for traditional as well as non-traditional instrumentation. Instructional design, assessment, pedagogy, and technology.

**344. General Music Methods** (3 cr) Prereq: Admission to the Music Teacher Education Program; MUED 244 and 297. Parallel: MUED 397A.

Skills, knowledge, methods, and materials needed for teaching in the elementary and secondary general music setting.

**345. Instrumental Music Methods** (3 cr) Prereq: Admission to the Music Teacher Education Program; MUED 374. Parallel: MUED 397B. Instruction and guided practice in teaching at the elementary and secondary level in band and orchestral settings with an emphasis on rehearsal techniques, assessment, and curriculum development.

**346. Choral Music Methods** (3 cr) Prereq: Admission to Music Teacher Education Program; MUED 374. Parallel: MUED 397D. Choral music teaching methods at the elementary and secondary school level. Various teaching strategies, rehearsal techniques, practical organization skills, and current trends.

**370. Elementary School Music** (3 cr, max 3) Prereq: Admission to the Teacher Education Program or permission. Designed for College of Education and Human Sciences students who are working toward an elementary certificate. Prospective teachers of elementary school-age children are given the basic rudiments and methodology needed to implement music in the curriculum. Skills lab required.

**374. Advanced Conducting** (3 cr) Prereq: MUSC 274. Techniques of choral and instrumental conducting, score reading and preparation, rehearsal techniques, aural skills, practice strategies, and interpersonal considerations. Aspects of arranging as they relate to the conductor's craft, transposition, orchestration, and analysis. Resources available to conductors and arrangers, books, software, videos, periodicals and Internet sites.

**397. Professional Practicum Experiences** (1-10 cr, max 10) Prereq: Admission to the Music Teacher Education Program or permission. *Pass/No Pass only.*

Supervised teaching experiences in school.

- A. General Music (1-2 cr, max 2) Parallel with MUED 344.
- B. Instrumental Music (1-2 cr, max 2) Parallel with MUED 345.
- D. Choral Music (1-2 cr, max 2) Parallel with MUED 346.

**401. Special Issues in Music Education** (1 cr, max 6) Prereq: MUED 344, 345 and 346.

Advanced work in current issues and trends in specific aspects of pre-K to 12th grade music education.

- A. General Music (1-2 cr)
- B. Instrumental Music (1-2 cr)
- E. Choral Music (1-2 cr)
- J. Marching Band Techniques (1-2 cr)
- K. Marching Band Drill Design (1-2 cr) Prereq: MUED 401E.
- L. Jazz Theory (1-2 cr)
- M. Jazz Improvisation (1-2 cr)
- N. Strings (1-2 cr)
- Z. Special Topic (1-2 cr)

(ACE 10) **403. Student Teaching Seminar** (3 cr I, II) Lec 1. Prereq: Parallel MUED 497/897. MUED 403 is 'Pass/No Pass' only. Analysis of K to 12th grade music teaching: teacher certification; selected legal aspects of education; current issues in education; and professional communication.

(ACE 5, 7) [ES][IS] **450/850. American Cultural Perspectives through Popular Music and Guitar** (TEAC 450/850; MUNM 450) (3 cr, max 3)

Exploration of the historical, social and cultural context of late nineteenth and twentieth century America through learning to play jazz and popular music on the guitar to provide an authentic, performance-based encounter in music.

[IS] **470. Music and Special Education** (3 cr) Lec 3. Prereq: MUED 344; parallel MUED 497D or 497T. Function and contribution of music in the education of students with special needs. Methodology, materials, and practicum for the development of effective musical experiences for Pre-K to 12th graders with various exceptionalities, including giftedness. Federal and state legislation, Individual Education Programs (IEPs), assessments, adaptations of curriculum materials, current methodologies, and research.

**473/873. Approaches to Middle School General Music** (3 cr) Prereq: MUED 344.

For prospective new and experienced general music/middle school teachers. Characteristics of middle school students, materials, methodology, guitar and recorder techniques, and curriculum development.

**482/882. Music Technology: Foundations and Principles** (1-3 cr, max 3) Prereq: Admission to the Teacher Education Program. Fundamental skills in personal use of technology for

information processing (integrative software), music processing (MIDI sequencing and music notation software), and Internet applications. Personal skills then applied to the effective integration of technology into the K-12 music curriculum for both teaching and learning.

**483/883. Music Technology: Advanced Techniques and Applications** (1-3 cr, max 3) Prereq: MUED 482/882.

Advanced music technology presented in seminar format focusing on particular areas of interest such as MIDI sequencing, advanced music notation, and the development of sound and MIDI files for multi-media uses.

**490. Workshop Seminar** (1-12 cr, max 12)

**496/896. Independent Study in Music Education** (1-6 cr, max 9) Prereq: Permission.

Individual, scholarly study designed to enable a student to pursue a selected topic in music education with the direction and guidance of a faculty member.

**497/897. Student Teaching** (1-2 cr, max 12) MUED 897 does not apply towards the master of music degree.

Supervised teaching experiences in schools with accompanying seminar which focuses on: teacher certification, teacher and students rights and responsibilities, proper conduct of teachers, selected legal aspects of education, methods of communicating with parents and community members, and current issues which impact education.

**D. Elementary Music** (1-2 cr, max 12)

**T. Secondary Music** (1-2 cr, max 12)

**Y. Mainstreaming** (1 cr, max 1)

**Z. Multicultural** (1 cr, max 1)

**834. Advanced Instrumental Conducting** (2-3 cr, max 6) Prereq: MUSC 376.

**836. Foundations Psychology/Sociology of Music** (3 cr)

**838. Inclusive Music Education** (3 cr)

**843. Introduction to Research in Music Education** (TEAC 843) (2-3 cr, max 3) Prereq: Undergraduate degree in MUED.

**845. History and Philosophy Foundations of American Music Education** (TEAC 845) (3 cr) Prereq: Undergraduate degree in MUED.

**862. Choral Literature/Conducting for School Ensembles** (3 cr) Prereq: MUED 374.

**863. Instrumental Literature/Conducting for School Ensembles** (2-3 cr, max 3) Prereq: MUED 374.

**881. Music in Early Childhood Education** (TEAC 881) (3 cr) Prereq: Permission.

**892. Advanced Choral Conducting I** (2-3 cr, max 6) Prereq: Permission.

**898. Masters Research Project** (1-6 cr) Prereq: MUED 843 or permission.

Refer to the Graduate Bulletin for 900-level courses.

## Workshop Seminars in Music Education

**490/890. Workshop Seminar** (1-12 cr, max 12)

Opportunity to learn and to put into practice the principles and techniques of music instruction.

**493/893. Workshop Seminar** (1-12 cr, max 12)

Opportunity to learn and to put into practice the principles and techniques of music instruction.

## Music History (MUSC)

A student may pursue a bachelor of music degree with a music history major.

**099. Doctoral Colloquium** (0 cr)

Required for doctoral students during each semester of residence, the colloquium is a regularly scheduled meeting of faculty and doctoral students for the purpose of sharing ideas and the results of scholarly research.

[ES][IS] **277. Art Music in the Western World** (MUNM 277) (3 cr, max 3)

For course description, see MUNM 277.

(ACE 7, 9) [ES][IS] **280. World Music** (MUNM 280) (3 cr, max 3)

Introduction to basic ethnomusicological terms and techniques, including the distinction between folk, pop, and art music. The first half of class on traditional folk music of Europe, Africa, and America. The second portion on the art musics of the Near East, India, Indonesia, and China-Japan.

[ES][IS] **370H. Honors: Women Making Music** (MUNM 370H) (3 cr, max 3) Prereq: Good standing in the University Honors Program or by permission.

Popular and art music from the perspective of women.

**435/835. Music and Film: History and Analysis** (3 cr) Prereq: MUSC 366 or THEA 489/889. *MUSC 435/835 may only be taken once in a lifetime.*

Selected films, composers, scores, and the historical contexts. Historical trends in film and film scoring as well as how those trends are being interpreted by contemporary filmmakers.

**437/837. History of Jazz: Origins to Bop** (3 cr) Prereq: MUSC 366. *MUSC 437/837 may only be taken once in a lifetime.*

The history of jazz from its musical antecedents in the nineteenth century to the birth of modern jazz via Bebop in the 1940s. Important musical artists and trends within the larger context of American history in the twentieth century.

**438/838. History of Jazz: Post Bop** (3 cr, max 3) Prereq: MUSC 366. *MUSC 438/838 may only be taken once in a lifetime.*

The development of modern jazz from the late 1940s to the present. Important artists and trends within the larger context of American history in the twentieth century.

**442/842. Great Composers and Performers in Music** (3 cr, max 6) Prereq: MUSC 366 or equivalent.

Historical and stylistic study of the life and music of one or more important composers and/or performers in the European-American or non-Western musical traditions.

[IS] **449/849. Medieval Music** (3 cr) Prereq: MUSC 366.

Historical and stylistic study of medieval music and its antecedents.

**450/850. Johann Sebastian Bach** (2-3 cr, max 3) Prereq: MUSC 366 or equivalent.

Life and music of J.S. Bach, with emphasis on the most recent developments in Bach scholarship.

[IS] **458/858. History of the Opera** (3 cr) Prereq: Senior standing or MUSC 366.

Literature of the opera from its prehistory and beginnings to the present.

**459/859. Symphonic Literature** (3 cr) Prereq: Senior or graduate standing or MUSC 366.

Literature of the symphony orchestra from the Baroque era to the present.

**466/866. Jazz Styles** (2 cr) Prereq: MUSC 366 and 387 or equivalent.

Jazz styles from 1920 to the present, with emphasis on the development of listening skills required to aurally identify improvisors, composer/arrangers and stylistic characteristics within the jazz idiom.

[IS] **478/878. Music of the 20th Century I** (3 cr, max 3) Prereq: MUSC 366 or equivalent.

Historical and stylistic study of the music composed from the last decade of the nineteenth century through World War II.

[IS] **482/882. Music of the 20th Century II** (3 cr, max 3) Prereq: MUSC 366 or equivalent.

Historical and stylistic study of the music composed since World War II.

[IS] **485/885. Music of the Classic Period** (3 cr) Prereq: MUSC 366. Forms, styles, composers, and aesthetics of the classic period.

[IS] **486/886. Music of the Renaissance** (3 cr) Prereq: MUSC 366. Forms, styles, composers, and aesthetics of music of the Renaissance.

[IS] **487/887. Music of the Baroque Era** (3 cr) Prereq: MUSC 366.

Forms, styles, composers, and aesthetics of the Baroque Era.

**[IS] 488/888. Music of the Romantic Period** (3 cr) Prereq: MUSC 366. Forms, styles, composers, and aesthetics of the Romantic Era.

**[IS] 489/889. American Music** (3 cr, max 3) Prereq: MUSC 366 or equivalent. American music and musical life in its cultivated and vernacular traditions including a consideration of its cultural and social background as well as principal stylistic trends and predominant musical attitudes.

**836. Introduction to Graduate Studies in Music I** (2 cr)

**847. Graduate Review of Music History** (3 cr)

**881. Music Bibliography** (1 cr) Prereq: MUSC 366 or equivalent.

**884. Music in 20th-Century American Society** (3 cr) Prereq: Permission.

Twentieth century art and vernacular music in the social and historical contexts of its creation, including issues and repertoires that involve multiculturalism and the relationship between popular and art traditions and genres.

Refer to the Graduate Bulletin for 900-level courses.

## Music Literature and Pedagogy (MUSC)

**168. Beginning Jazz Improvisation** (MUNM 168) (2 cr, max 2) Prereq: Ability to read standard musical notation.

Jazz improvisation for instrumentalists with or without prior improvisation experience.

**268. Intermediate Jazz Improvisation** (MUNM 268) (2 cr) Prereq: MUSC/MUNM 168.

Jazz improvisation for instrumentalists that builds on the material covered in MUSC/MUNM 168.

**361. Fundamentals of Piano Design and Mechanics** (2 cr, max 2)

Fundamental principles of the development, construction, and maintenance of the piano. The theory and practice of tuning in equal temperament.

**362. Instrument Design and Mechanics** (2 cr, max 2)

Fundamentals of construction and maintenance of brass and woodwind instruments.

**422/822. Keyboard Skills I** (MUAP 422/822) (1 cr.) Prereq:

Permission.

Practicum in sight-reading, improvisation, harmonization, and playing by ear.

**424/824. Piano Pedagogy I: Foundations, Philosophies, and Theories** (3 cr) Prereq: 10 hrs applied piano.

The history, materials, and methodologies of piano pedagogy from a perspective of wellness promotion. Special issues pertaining to teaching beginning, intermediate, and advanced students. Observation experience and a supervised teaching practicum.

**425/825. Piano Pedagogy II: Approaches to Studio Teaching** (3 cr) Prereq: MUSC 424/824.

Issues pertinent to studio piano teaching, including business issues, developing effective strategies for teaching selected musical and technical skills. Observation experience and a supervised teaching practicum.

**433/833. Keyboard Skills II** (MUAP 433/833) (1 cr) Prereq: Permission. *Continuation of MUSC 422/822.*

For course description, see MUSC 422/822.

**441/841. Skills for the Church Musician** (3 cr I) Lec 3. Prereq: MUSC 274 and MUAP 232. *Keyboard facility recommended.* Skills and philosophical issues for those providing and organizing music for sacred institutions.

**451/851. Music and the Church** (3 cr) Prereq: MUSC 365 or RELG 150 or JUDS/RELG 205 or CLAS/HIST/RELG 307.

Historical relationship of music and the church: a survey of the major developments in the history of church music in light of theological presuppositions.

**452/852. Hymnology** (3 cr) Prereq: Junior standing.

History and literature of hymnology (texts and tunes) and their significance for music, church, and society.

**462/862. Instrumental Literature and Pedagogy** (2-3 cr, max 3 each) Lec.

Survey of the pedagogy and the solo, chamber and pedagogical literature of instruments from elementary to advanced levels, for class as well as private instruction.

- A. **Brass/Percussion Instruments** (2-3 cr, max 3)
- D. **String Instruments** (2-3 cr, max 3)
- E. **Woodwind Instruments** (2-3 cr, max 3)
- I. **Violin** (2-3 cr, max 3)
- J. **Viola** (2-3 cr, max 3)
- K. **Cello** (2-3 cr, max 3)
- L. **Double Bass** (2-3 cr, max 3)
- M. **Trumpet** (2-3 cr, max 3)
- N. **French Horn** (2-3 cr, max 3)
- P. **Trombone** (2-3 cr, max 3)
- Q. **Euphonium, Tuba** (2-3 cr, max 3)
- R. **Flute** (2-3 cr, max 3)
- T. **Oboe** (2-3 cr, max 3)
- U. **Clarinet** (2-3 cr, max 3)
- V. **Bassoon** (2-3 cr, max 3)
- W. **Saxophone** (2-3 cr, max 3)
- Y. **Percussion** (2-3 cr, max 3)
- Z. **Guitar** (2-3 cr, max 3)

**467/867. Jazz Improvisation** (3 cr) Prereq: MUSC 466/866 or equivalent.

Formal and harmonic analysis of standard tunes and jazz classics. Application of modal and scalar approach to performance of jazz chord progressions. Analysis of recorded jazz solos.

**468/868. Jazz Pedagogy** (3 cr, max 3)

Acquaints student with musical repertoire and rehearsal technique of the school jazz ensemble, the various methods of jazz improvisation instruction, the musical roles of the rhythm section, and the materials (books, audio, and video recordings, etc.) that are available to the jazz teacher.

**469/869. Organ Design and Construction** (2-3 cr, max 3) Prereq: 10 hours of applied organ.

Comparison of the most important methods of designing and constructing organs in Europe and America from 1500 to the present.

**470/870. Introduction to Vocal Pedagogy** (3 cr) Lec 3. Prereq: Junior standing.

The processes of teaching singing, basic physiology, and scientific and acoustical terms. Developing processes to teach breathing, phonation, registration, resonance strategies, and sound concept through discussion and evaluation of practice teaching, and on how to manage a private studio.

**471/871. Art Song I** (3 cr) Prereq: Junior standing.

Development of the art song, emphasizing the European and New World traditions from the eighteenth century to the present.

**472/872. Art Song II** (3 cr) Prereq: Junior standing.

Intensive study of the German, French and American art song literature from the eighteenth century to the present.

**474/874. Organ Literature and Pedagogy** (3 cr) Prereq: 10 hrs organ or equivalent.

Survey of the most important trends in organ literature and pedagogy from medieval times to the present day. The interrelationships between the music and organ design.

**475/875. Organ Literature Seminar** (3 cr, max 15) Lec 3. Prereq: 10 hrs organ or equivalent. *Topics will rotate.*

Seminar in specific focus areas of organ literature.

- A. **German Organ Music to 1800** (3 cr) Lec 3.
- B. **Organ Music of France** (3 cr) Lec 3.
- E. **Organ Music of America** (3 cr) Lec 3.
- J. **Organ Music Since 1950** (3 cr) Lec 3.
- K. **Historic Organ Technique** (3 cr) Lec 3.

**476/876. Piano Literature** (3 cr) Prereq: 12 hrs undergraduate piano.

Literature for solo piano from the early Baroque through the twentieth century, with emphasis on musical styles.

**477/877. Piano Literature Seminar** (3 cr) Prereq: 12 hrs undergraduate piano.

Literature for solo piano. Specific style periods rotate.

- A. **Baroque/Classical** (3 cr, max 3)
- B. **Romantic** (3 cr, max 3)
- D. **20th Century Repertoire** (3 cr, max 3)

**826. Piano Pedagogy III: Pedagogical Methods and Literature** (3 cr) Prereq: MUSC 425/825.

**827. Piano Pedagogy IV: Group Teaching and Research/Writings** (3 cr) Prereq: MUSC \*826.

**839. Music in the Lives of People** (3 cr)

**840. Technology Strategies for Teaching Composition** (3 cr)

Refer to the Graduate Bulletin for 900-level courses.

## Music Theory (MUSC)

A student may pursue a bachelor of music degree with a music theory major.

**(ACE 10) [IS] 445. Analysis for Performance** (3 cr, max 3) Prereq: Senior standing and MUSC 366. *MUSC 445 is a capstone course and includes an outcome assessment component for the bachelor of music degree.*

Relationship between musical analysis and musical performance. Individual performance project of a suitable composition and a research paper devoted to the work and its performance.

**455/855. Techniques of Counterpoint** (3 cr II) Lec 3. Prereq: MUSC 266.

Counterpoint from the eighteenth through the twentieth century. Analysis of excerpts from the literature and composition of representative musical examples.

**457/857. Post-Tonal Theory** (3 cr I) Lec 3. Prereq: MUSC 266.

Overview of recent techniques for the analysis of twentieth century music. Evaluation of the theories of Schönberg, Forte, Babbitt, Perle, Lewin, Morris, and others. Application of musical examples.

**460/860. Musical Form** (3 cr I) Lec 3. Prereq: MUSC 266.

The formal structure and design in music of the common practice period and the present, smaller structural units, motivic processes, binary and ternary forms, vocal forms, theme and variation, sonata, rondo, concerto, suite, ostinato, and contrapuntal forms.

**461/861. Comprehensive Analysis** (3 cr III) Lec 3. Prereq: MUSC 266.

Analysis of music within historical and stylistic contexts with the goal of informing score study and preparation for performers, conductors, and music educators. Analysis of music from the Renaissance, Baroque, Classical, Romantic, and contemporary eras.

**465/865. Jazz Theory** (3 cr II) Lec 3. Prereq: MUSC 266.

Theoretical foundation of jazz composition and performance. Ear training and keyboard skills.

**480/880. Advanced Tonal Theory** (3 cr I, II) Lec 3. Prereq: MUSC 266.

Compositional practices of late nineteenth century European music. Chromatic harmony and devices of tonal and motivic expansion. Analytical concepts of Schenker, Schönberg, and others. Application of musical examples.

**848. Graduate Review of Music Theory** (3 cr)

Refer to the Graduate Bulletin for 900-level courses.

## Opera/Music Theatre Performance (MUOP)

**057. Music Theatre Performance** (MUOP 357) (0 cr) Prereq: Audition and permission.

Preparation for and performance of a chorus, minor, or major role in a fully staged UNL Opera Theatre production.

**058. Philharmonia: Opera and Chamber Orchestra** (MUOP \*858) (0 cr) Prereq: Audition required. Parallel MUEN 045A/\*845A; or MUEN 045E/\*845E; or MUEN 045K/\*845K as assigned in the audition process.

Rehearsal and performance of chamber orchestral and operatic repertoire of the seventeenth through the twenty-first centuries.

**356. Intermediate Opera Performance Techniques** (2 cr, max 4) Prereq: MUSC 156.

Techniques of recitative, aria, and ensemble preparation. Opera performance training through the coordination of singing, movement, and emotional expression.

**357. Music Theatre Performance** (MUOP 057, 0 cr) (1-3 cr, max 4) Prereq: Audition and permission. Preparation for and performance of a chorus, minor, or major role in a fully staged UNL Opera Theatre production.

**358. Philharmonia: Opera and Chamber Orchestra** (1 cr, max 12) Stu. Open by audition or permission of ensemble director. Parallel MUCO 047/MUDC/MUCO/MUNM 247/447 or MUCO 048A/MUDC/MUCO 248A/448A or MUCO 048B/MUDC/MUCO 248B/448B as assigned in the audition process. Rehearsal and performance of chamber orchestral and operatic repertoire of the seventeenth through the twenty-first centuries.

**455/855. Musical Theatre Techniques** (THEA 455/855) (3 cr, max 3) For course description, see THEA 455/855.

**856. Advanced Opera Performance Techniques** (2 cr) Prereq: MUSC 356 or audition and permission.

**857. Music Theatre Performance** (1-3 cr per sem) Prereq: Audition and permission.

Refer to the Graduate Bulletin for 900-level courses.

## Applied Music (MUAP)

All students wishing to register for applied music lessons must audition, see "Applied Music." To make arrangements, contact the School of Music Office at (402) 472-2503. The only exception to the audition requirement is made for beginners (not music majors or minors). For course descriptions for nonmajors, see listings under "Music for Non-majors (MUNM)."

For registration, each student must obtain a written permission form with the call number from the music office each semester.

Students will use 100-level applied music registrations until they have 4 credits at which time they may register in the 200 series. Successful completion of Upper Divisional Qualifying Jury (see page 336) and eight applied music credits must be accumulated before registering in the 300 series. Twelve credits are required for registering at the 400 level. Music majors take lessons in the major area for 2-3 credits per semester and in other areas for 1 credit; music minors and others are limited to 1 credit. Majors may not take lessons for 2 credits in two or more areas simultaneously. **NOTE:** See Ensemble category for ensemble requirements related to applied music enrollment.

A \$25 fee per semester will be charged to all students registering for applied music lessons. The fee will be assessed on the student's tuition statement. Students who are neither music majors nor minors may obtain applied music lessons for credit by auditioning successfully and paying for the credit plus an extra \$80 fee, or may elect to take lessons from a private individual, not for credit.

All applied music students must take a jury examination at the end of each semester. Students may be exempted from jury examinations only when they have performed a recital during the last seven weeks of that semester in fulfillment of degree requirements.

101, 201 Voice (1-2 cr, max 4)  
102, 202 Piano (1-2 cr, max 4)  
103, 203 Organ (1-2 cr, max 4)  
104, 204 Harpsichord (1-2 cr, max 4)  
105, 205 Violin (1-2 cr, max 4)  
106, 206 Viola (1-2 cr, max 4)  
107, 207 Cello (1-2 cr, max 4)  
108, 208 Double Bass (1-2 cr, max 4)  
109, 209 Harp (1-2 cr, max 4)  
110, 210 Trumpet (1-2 cr, max 4)

111, 211 French Horn (1-2 cr, max 4)  
112, 212 Trombone (1-2 cr, max 4)  
113, 213 Euphonium (1-2 cr, max 4)  
114, 214 Tuba (1-2 cr, max 4)  
115, 215 Flute (1-2 cr, max 4)  
116, 216 Oboe (1-2 cr, max 4)  
117, 217 Clarinet (1-2 cr, max 4)  
118, 218 Bassoon (1-2 cr, max 4)  
119, 219 Saxophone (1-2 cr, max 4)  
120, 220 Percussion (1-2 cr, max 4)  
124, 224 Guitar (1-2 cr, max 4)

**231. Keyboard Skills III** (1 cr) Stu 2. Prereq: MUSC 131 and 132. Refinement of skills gained in earlier courses with more advanced applications, use of chromatic chords, modulations, score reading, and basic accompanying.

**232. Keyboard Skills IV** (1 cr) Stu 2. Prereq: MUSC 131 and 132; MUAP 231. *Final course for developing piano skills in preparation for the piano proficiency examination.*

**232H. Honors: Keyboard Skills** (1 cr) Stu. Prereq: Good standing in the University Honors Program or by invitation. MUAP 232H requires an audition. MUAP 232H covers all the components for the piano proficiency examination in one semester. Realization of lead sheets and more advanced piano technique.

**235. Class Instruction Voice** (1 cr)

**236. Class Instruction in String Instruments** (1 cr) Prereq: Permission. Development of the skills and knowledge necessary to play and teach high and low string instruments in heterogeneous strings class settings. Goals include the development of a good working knowledge of solo and ensemble literature for students in school settings (grades 5-12).

**237. Class Instruction in Brass Instruments** (1 cr)

**238. Class Instruction in Flute and Clarinet** (1 cr)

**239. Class Instruction in Percussion Instruments** (1 cr)

**240. Class Instruction in Double Reed Woodwind Instruments and Saxophone** (1 cr)

301. Voice (1-3 cr, max 6)

302. Piano (1-3 cr, max 6)

303. Organ (1-3 cr, max 6)

304. Harpsichord (1-3 cr, max 6)

305. Violin (1-3 cr, max 6)

306. Viola (1-3 cr, max 6)

307. Cello (1-3 cr, max 6)

308. Double Bass (1-3 cr, max 6)

309. Harp (1-3 cr, max 6)

310. Trumpet (1-3 cr, max 6)

311. French Horn (1-3 cr, max 6)

312. Trombone (1-3 cr, max 6)

313. Euphonium (1-3 cr, max 6)

314. Tuba (1-3 cr, max 6)

315. Flute (1-3 cr, max 6)

316. Oboe (1-3 cr, max 6)

317. Clarinet (1-3 cr, max 6)

318. Bassoon (1-3 cr, max 6)

319. Saxophone (1-3 cr, max 6)

320. Percussion (1-3 cr, max 6)

324. Guitar (1-3 cr, max 6)

401. Voice (1-3 cr, max 9)

402. Piano (1-3 cr, max 9)

403. Organ (1-3 cr, max 9)

404. Harpsichord (1-3 cr, max 9)

405. Violin (1-3 cr, max 9)

406. Viola (1-3 cr, max 9)

407. Cello (1-3 cr, max 9)

408. Double Bass (1-3 cr, max 9)

409. Harp (1-3 cr, max 9)

410. Trumpet (1-3 cr, max 9)

411. French Horn (1-3 cr, max 9)

412. Trombone (1-3 cr, max 9)

413. Euphonium (1-3 cr, max 9)

414. Tuba (1-3 cr, max 9)

415. Flute (1-3 cr, max 9)

416. Oboe (1-3 cr, max 9)

417. Clarinet (1-3 cr, max 9)

418. Bassoon (1-3 cr, max 9)

419. Saxophone (1-3 cr, max 9)

420. Percussion (1-3 cr, max 6)

**422/822. Keyboard Skills I** (MUSC 422/822) (1 cr) Prereq: Permission. For course description, see MUSC 422/822.

**424. Guitar** (1-3 cr, max 9)

**433/833. Keyboard Skills II** (MUSC 433/833) (1 cr) Prereq: Permission. Continuation of MUSC/MUAP 422/822. For course description, see MUSC 422/822.

801 (1-2 cr), 901 (1-4 cr) Voice  
802 (1-2 cr), 902 (1-4 cr) Piano  
803 (1-2 cr), 903 (1-4 cr) Organ  
804 (1-2 cr), 904 (1-4 cr) Harpsichord  
805 (1-2 cr), 905 (1-4 cr) Violin  
806 (1-2 cr), 906 (1-4 cr) Viola  
807 (1-2 cr), 907 (1-4 cr) Cello  
808 (1-2 cr), 908 (1-4 cr) Double Bass  
809 (1-2 cr), 909 (1-4 cr) Harp  
810 (1-2 cr), 910 (1-4 cr) Trumpet  
811 (1-2 cr), 911 (1-4 cr) French Horn  
812 (1-2 cr), 912 (1-4 cr) Trombone  
813 (1-2 cr), 913 (1-4 cr) Euphonium  
814 (1-2 cr), 914 (1-4 cr) Tuba  
815 (1-2 cr), 915 (1-4 cr) Flute  
816 (1-2 cr), 916 (1-4 cr) Oboe  
817 (1-2 cr), 917 (1-4 cr) Clarinet  
818 (1-2 cr), 918 (1-4 cr) Bassoon  
819 (1-2 cr), 919 (1-4 cr) Saxophone  
820 (1-2 cr), 920 (1-4 cr) Percussion

\*800A. Voice (1 cr per sem)

\*800B. Keyboard (1 cr per sem)

\*800D. String (1 cr per sem)

\*800E. Brass (1 cr per sem)

\*800G. Woodwind (1 cr per sem)

\*800J. Percussion (1 cr per sem)

## Ensembles

An audition is required for each ensemble. Contact the School of Music for audition information.

## MUDC/MUCO

Music Ensembles for Degree Credit (MUDC) are exclusively for music majors and minors to fulfill major and minor degree requirements. Music Ensembles for Elective Credit Only (MUCO) are for all other students, and music majors and minors who register for more than one ensemble per semester. All students (full-time music majors, music minors, students registered for applied music, and students with majors or minor outside music) participating in an ensemble in a given semester must register for a minimum of 1 MUDC or MUCO credit. Students participating in more than one ensemble during the same semester may register for zero credit for the additional ensemble(s) using a MUCO ensemble number. All students who do not take applied lessons for credit in a given semester and are in an ensemble must register for the ensemble MUDC or MUCO for credit. No zero credit enrollment will be allowed for such students. Ensemble registrations may be repeated for credit. Ensembles taken in excess of degree requirements will only count as electives.

## First Year/First Semester Student Ensemble Registration Policy

- All string majors must register for Symphony Orchestra (MUDC 247).

- All wind and percussion majors must register for Symphonic Band (MUDC or MUCO 248B) or Jazz Ensemble I (MUDC or MUCO 253A).
- All voice majors and all piano, organ, guitar, harp, harpsichord, and composition majors must register for Concert Choir (MUDC 242).
- All music minors (any applied emphasis) registered for applied music must register for an applied related ensemble (Group I, IA, or II) selected from the List of Approved Ensembles.

### Requirements for Music Majors

Every full-time music major (12 credit hours or more) enrolled in applied music lessons must perform in an ensemble from the List of Approved Ensembles (BA/BM keyboard and guitar players may also use MUDC 440A, 440B, or 352) each semester. Students who have not fulfilled ensemble degree requirements should register for one (and only one) MUDC ensemble per semester. The ensembles listed under the MUDC listing are the only ensembles that will fulfill the degree requirements. Only 1 credit under the MUDC listing may be taken per semester. Students may register for additional ensembles using the MUCO listing. Students in the music education degree program are exempt from ensemble participation during the semester in which they student teach. After the student has completed the minimum ensemble requirement for a degree, the student may participate in any ensembles listed below in the List of Approved Ensembles (plus MUDC 440A, 440B, or 352 for keyboard, composition, or guitar students).

### Bachelor of Music

(See following List of Approved Ensembles)

#### Vocal Emphasis

- 1 credit Varsity Chorus (MUDC 243) or University Chorale (MUDC 246)  
 7 credits from Group I or IA or  
 5 credits from Group I or IA and 2 credits from Group II

#### Instrumental Emphasis (winds, strings, percussion)

- 1 credit Varsity Chorus (MUDC 243) or University Chorale (MUDC 246)  
 4 credits minimum from Group I or IA (wind & percussion majors: min 3 cr in Wind Ensemble, Symphonic Band, or Symphony Orchestra; string majors: min 3 cr in Symphony Orchestra)  
 3 credits from Group I, IA, or II

#### Piano Emphasis

- 1 credit Varsity Chorus (MUDC 243) or University Chorale (MUDC 246)  
 2 credits Group I or IA  
 5 credits in Chamber Music Keyboard Ensemble (MUDC 352) and/or Accompanying (MUDC 440A and 440B)

#### Organ Emphasis

- 1 credit Varsity Chorus (MUDC 243) or University Chorale (MUDC 246)  
 4 credits All-Collegiate Choir (MUDC 241/441) or University Singers (MUDC 245/445)  
 3 credits in Chamber Music Keyboard Ensemble (MUDC 352) and/or Accompanying (MUDC 440A and 440B)

#### History and Literature Emphasis

- Students will select an applied emphasis [Vocal, Instrumental, Piano or Organ (#1-4 above)] and complete 6 credits from the List of Approved Ensembles.

#### Theory Emphasis

Students will select an applied emphasis [Vocal, Instrumental, Piano or Organ (#1-4 above)] and complete 6 credits from the List of Approved Ensembles.

#### Composition Emphasis

- 1 credit Varsity Chorus (MUDC 243) or University Chorale (MUDC 246)  
 7 credits selected from Group I, IA, or II on either the Instrumental or Vocal List of Approved Ensembles

#### Guitar Emphasis

- 1 credit Concert Choir (MUDC 242)  
 2 credits from Group I or IA Instrumental or Vocal List of Approved Ensembles  
 5 credits from Vocal or Instrumental Group II or MUDC 352

### Bachelor of Music Education

(See following List of Approved Ensembles)

#### Vocal Emphasis

- 1 credit Varsity Chorus (MUDC 243) or University Chorale (MUDC 246)  
 4 credits from Vocal Group I or IA  
 1 credit from Instrumental Group II and 1 credit from Instrumental or Vocal Group II

#### Instrumental Emphasis (winds, strings, percussion)

- 1 credit Varsity Chorus (MUDC 243) or University Chorale (MUDC 246)  
 4 credits from Instrumental Group I or IA (wind and percussion majors: min 3 cr in Wind ensemble, Symphonic Band, or Symphony Orchestra; string majors: min 3 cr in Symphony Orchestra)  
 2 credits from Vocal or Instrumental Group II

#### Piano, Organ, Guitar, Harp, Harpsichord, Composition Emphasis

- 1 credit Varsity Chorus (MUDC 243) or University Chorale (MUDC 246)  
 4 credits from Vocal or Instrumental Group I or IA  
 1 credit from Vocal Group II and 1 credit from Instrumental Group II

### Bachelor of Arts

(See following List of Approved Ensembles)

- 1 credit Varsity Chorus (MUDC 243) or University Chorale (MUDC 246)  
 4 credits (3 credits if completing business or music technology minor) from Group I or IA (in applied area) (wind & percussion majors: min 2 cr in Wind Ensemble, Symphonic Band, or Symphony Orchestra; string majors: min 2 cr in Symphony Orchestra; keyboard, guitar or composition majors may also use MUDC 440A, 440B, or 352)  
 1 credit from Group I, IA or II (in applied area)

### Requirements for Music Minors

(See following List of Approved Ensembles)

Every music minor must perform in an ensemble from the List of Approved Ensembles during each semester enrolled in applied music lessons. A total of 4 credits from the List of Approved Ensembles from Group I, IA, or II in the student's applied related area [piano, organ, guitar, harp, and harpsichord emphases may select from either vocal or instrumental group options or chamber music (MUDC 352)] fulfills the ensemble requirement for music minors. Music Theatre minors must perform in an ensemble from the Vocal Approved Ensemble list (two semesters of choir and two semesters of "productions").

### Requirements for Other Students Taking Applied Music

All students taking applied music must perform in an applied related ensemble unless their instructor determines they are not qualified to do so. Students audition and participate in an ensemble during each semester of applied study.

### List of Approved Ensembles

#### Instrumental Degrees (MUDC)

- Group I: Symphony Orchestra (247 or 447), Wind Ensemble (248A or 448A), Jazz Ensemble I (253A or 453A)  
 Group IA: Symphonic Band (248B or 448B), Jazz Ensemble II (253B or 453B)  
 Group II: Symphony Orchestra (247 or 447) (vocal majors only), Symphonic Band (248B or 448B) (string and vocal majors only), Campus Band (248D or 448D) (secondary area only), Marching Band (248E or 448E) (max 1 cr), Jazz Ensemble II (253B or 453B)

#### Vocal Degrees (MUDC)

- Group I: University Singers (245 or 445)  
 Group IA: Concert Choir (242), All Collegiate Choir (241 or 441), Chamber Singers (249 or 449), Varsity Chorus (243; max 1 cr), University Chorale (246; max 1 cr)  
 Group II: Concert Choir (242 or 442) (instrumental majors only), Varsity Chorus (243 or 443), University Chorale (246 or 446), Jazz Vocal Ensemble (253D or 453D-vocal section only), Big Red Singers (251 or 451; max 2 cr)

**NOTE:** Students registering to fulfill Group I degree ensemble requirements must audition for and participate in a Group I ensemble. If it is not possible to accommodate the student in a Group I ensemble, the student must audition and participate in a Group IA ensemble to fulfill the Group IA requirement.

### Music Ensembles for Degree Credit (MUDC)

- 241. All-Collegiate Choir** (MUDC 441; MUCO 041, 241, 441; MUNM 241, 441) (1 cr, max 12 I, II) *Audition not required. Off-campus performance as approved by the instructor and the Director of the School of Music.*

For course description, see MUDC 441.

- A. **City Campus Choir** (1 cr, max 12)  
 B. **East Campus Choir** (1 cr, max 12)

- 242. Concert Choir** (MUCO 042, 242; MUNM 242) (1 cr, max 12) Stu 3. Prereq: Freshman standing; music major and/or minor. *Open to freshman only; others by conductor's permission. Begin or continue previous choral experience.*

Repertoire chosen from the standard literature. Sight reading and good singing habits.

- 243. Varsity Chorus** (MUDC 443; MUCO 043, 243, 443; MUNM 243, 443) (1 cr, max 12) Stu 3. Prereq: Tenor or bass voice. *Audition not required. Off-campus performance as approved by the instructor and the Director of the School of Music.*

For course description, see MUDC 443.

- 245. The University Singers** (MUDC 445; MUCO 045, 245, 445; MUNM 245, 445) (1 cr, max 12) Stu 3. *Audition required. Performances on and off campus as approved by the instructor and the Director of the School of Music.*

For course description, see MUDC 445.

- 246. University Chorale** (MUDC 446; MUCO 046, 246, 446; MUNM 246, 446) (1 cr per sem, max 12) Stu 3. *Off-campus performances as approved by the instructor and the Director of the School of Music.*

For course description, see MUDC 446.

**247. Symphony Orchestra** (MUDC 447; MUCO 047, 247, 447; MUNM 247, 447) (1 cr, max 12) *Open only upon examination. Off-campus performances as approved by the instructor and the Director of the School of Music. May include collaborations with faculty, students, or guest soloists, and with choral ensembles.* For course description, see MUDC 447.

**248. Band** (MUDC 448; MUCO 048, 248, 448; MUNM 248, 448) (1 cr, max 12) Stu 3. *Audition or permission of director of ensemble. May require off-campus travel as approved.*

For course description, see MUDC 448.

- A. Wind Ensemble (1 cr, max 12)
- B. Symphonic Band (1 cr, max 12)
- C. Campus Band (1 cr, max 12)
- E. Marching Band (1 cr, max 12) Prereq: 2.0 GPA. *Audition required. Must meet and maintain full-time enrollment status at UNL. Requires off-campus performances as approved. First round auditions must be completed by July 1.*

**249. Chamber Singers** (MUDC 449; MUCO 049, 249, 449; MUNM 249, 449) (1 cr, max 12) Stu. *Audition required. Off-campus performances as approved by instructor and the Director of the School of Music.*

For course description, see MUDC 449.

**251. Big Red Singers** (MUDC 451; MUCO 051, 251, 451; MUNM 251, 451) (1 cr, max 12) Stu 5. Prereq: 2.0 GPA. *Audition required. Must meet and maintain full-time enrollment status at UNL.* For course description, see MUDC 451.

**253. Jazz Ensemble** (MUDC 453; MUCO 053, 253, 453; MUNM 253, 453) (1 cr, max 12) Stu 3. *Open by audition or permission of the Director of Jazz Activities. Auditions held the weekend before each term. Performances are held on and off campus as approved by the Director of Jazz Activities and the Director of the School of Music.*

For course description, see MUDC 453.

- A. Jazz Ensemble I (1 cr, max 12)
- B. Jazz Ensemble II (1 cr, max 12)
- E. Jazz Vocal Ensemble (1 cr, max 12)

**352. Chamber Music** (MUCO 052, 352; MUNM 352) (1 cr, max 12) Stu 2. *Off-campus performances as approved. Open only to students whose applied related instrument is piano, organ, or guitar.*

Quartets, trios, duos, and miscellaneous chamber groups organized for supervised and scheduled rehearsals of music appropriate for the ensemble.

**440A/840A. Accompanying Vocal** (MUCO 440A/840A) (1 cr, max 5) Prereq: Permission.

For course description, see MUCO 440A/840A.

**440B/840B. Accompanying Instrumental** (MUCO 440B/840B) (1 cr, max 5)

For course description, see MUCO 440B/840B.

**441. All-Collegiate Choir** (MUDC 241; MUCO 041, 241, 441; MUNM 241, 441) (1 cr, max 12 I, II) Stu 3. *Audition not required. Off-campus performance as approved by the instructor and the Director of the School of Music.*

Standard choral works.

- A. City Campus Choir (1 cr, max 12)
- B. East Campus Choir (1 cr, max 12)

**443. Varsity Chorus** (MUDC 243; MUCO 043, 243, 443; MUNM 243, 443) (1 cr, max 12) Stu 3. Prereq: Tenor or bass voice. *Audition not required. Off-campus performance as approved by the instructor and the Director of the School of Music.* Tenor and bass choral literature chosen from folk songs, spirituals, Broadway and Cornhusker favorites.

**445. The University Singers** (MUDC 245; MUCO 045, 245, 445; MUNM 245, 445) (1 cr, max 12) Stu 3. *Audition required. Performances on and off campus as approved by the instructor and the Director of the School of Music.*

Repertoire from the choral literature of the Renaissance through contemporary periods.

**446. University Chorale** (MUDC 246; MUCO 046, 246, 446; MUNM 246, 446) (1 cr per sem, max 12) Stu 3. *Off-campus performances as approved by the instructor and the Director of the School of Music.*

Soprano and alto choral literature.

**447. Symphony Orchestra** (MUDC 247; MUCO 047, 247, 447; MUNM 247, 447) (1 cr, max 12) Stu. *Open only upon examination. Off-campus performances as approved by the instructor and the Director of the School of Music. May include collaborations with faculty, students, or guest soloists, and with choral ensembles.* Rehearsal and performance of major orchestral works of the eighteenth through the twenty-first centuries.

**448. Band** (MUDC 248; MUCO 048, 248, 448; MUNM 248, 448) (1 cr, max 12) Stu 3. *Audition or permission of director of ensemble. May require off-campus travel as approved.*

- A. Wind Ensemble (1 cr, max 12)
- B. Symphonic Band (1 cr, max 12)
- D. Campus Band (1 cr, max 12)
- E. Marching Band (1 cr, max 12) Prereq: 2.0 GPA. *Audition required. Must meet and maintain full-time enrollment status at UNL. Requires off-campus performances as approved. First round auditions must be completed by July 1.*

**449. Chamber Singers** (MUDC 249; MUCO 049, 249, 449; MUNM 249, 449) (1 cr, max 12) Stu. *Audition required. Off-campus performances as approved by instructor and the Director of the School of Music.*

Select vocal ensemble specializing in the performance of vocal chamber music ranging from early music to contemporary literature.

**451. Big Red Singers** (MUDC 251; MUCO 051, 251, 451; MUNM 251, 451) (1 cr, max 12) Stu 5. Prereq: 2.0 GPA. *Audition required. Must meet and maintain full-time enrollment status at UNL.* Performance of Broadway and other contemporary repertoire.

**453. Jazz Ensemble** (MUDC 253; MUCO 053, 253, 453; MUNM 253, 453) (1 cr, max 12) Stu 3. *Open by audition or permission of the Director of Jazz Activities. Auditions held the weekend before each term. Performances are held on and off campus as approved by the Director of Jazz Activities and the Director of the School of Music.*

Jazz instrumental and/or vocal ensembles of standard instrumentation and/or voicing.

- A. Jazz Ensemble I (1 cr, max 12)
- B. Jazz Ensemble II (1 cr, max 12)
- E. Jazz Vocal Ensemble (1 cr, max 12)

### Music Ensembles for Elective Credit Only (MUCO)

**041. All-Collegiate Choir** (MUDC 241, 441; MUCO 241, 441; MUNM 241, 441) (0 cr I, II) *Audition not required. Off-campus performance as approved by the instructor and the Director of the School of Music.*

For course description, see MUDC 441.

- A. City Campus Choir (0 cr)
- B. East Campus Choir (0 cr)

**042. Concert Choir** (MUDC, MUCO, MUNM 242) (0 cr) Prereq: Freshman standing; music major and/or minor. *Open to freshman only, others by conductor's permission. Begin or continue previous choral experience.*

For course description, see MUDC 242.

**043. Varsity Chorus** (MUDC 243, 443; MUCO 243, 443; MUNM 243, 443) (0 cr) Prereq: Tenor or bass voice. *Audition not required. Off-campus performance as approved by the instructor and the Director of the School of Music. Pass/No Pass only.* For course description, see MUDC 443.

**044. Small Ensembles** (MUCO, MUNM 344) (0 cr) Stu 3. *Requires off-campus performances as approved.* For course description, see MUCO 344.

- A. String Ensemble (0 cr)
- E. Brass Ensemble (0 cr)
- I. Clarinet Choir (0 cr)
- J. Flute Ensemble (0 cr)
- L. Trombone Ensemble (0 cr)
- M. Horn Ensemble (0 cr)
- P. Percussion Ensemble (0 cr)
- T. Saxophone Ensemble (0 cr)
- U. New Music Consort (0 cr)
- V. Small Vocal Ensemble (0 cr)
- W. Tuba/Euphonium Ensemble (0 cr)
- Y. Jazz Small Group (1 cr, max 12)
- Z. Pep Band (1 cr, max 12) Stu 3. Prereq: 2.0 GPA. *Audition required. Must meet and maintain full-time enrollment status at UNL. May require off-campus travel.*

**045. The University Singers** (MUDC 245, 445; MUCO 245, 445; MUNM 245, 445) (0 cr) *Audition required. Performances on and off campus as approved by the instructor and the Director of the School of Music.*

For course description, see MUDC 445.

**046. University Chorale** (MUDC 246, 446; MUCO 246, 446; MUNM 246, 446) (0 cr) *Off-campus performances as approved by the instructor and the Director of the School of Music.*

For course description, see MUDC 446.

**047. Symphony Orchestra** (MUDC 247, 447; MUCO 247, 447; MUNM 247, 447) (0 cr) Stu. *Open only upon examination. Off-campus performances as approved by the instructor and the Director of the School of Music. May include collaborations with faculty, students, or guest soloists, and with choral ensembles.* For course description, see MUDC 447.

**048. Band** (MUDC 248, 448; MUCO 248, 448; MUNM 248, 448) (0 cr) Stu 3. *Audition or permission of director of ensemble. May require off-campus travel as approved.*

For course description, see MUDC 448.

- A. Wind Ensemble (0 cr)
- B. Symphonic Band (0 cr)
- D. Campus Band (0 cr)
- E. Marching Band (0 cr) Prereq: 2.0 GPA. *Audition required. Must meet and maintain full-time enrollment status at UNL. Requires off-campus performances as approved. First round auditions must be completed by July 1*

**049. Chamber Singers** (MUDC 249, 449; MUCO 249, 449; MUNM 249, 449) (0 cr) Stu. *Audition required. Off-campus performances as approved by instructor and the Director of the School of Music.* For course description, see MUDC 449.

**051. Big Red Singers** (MUDC 251, 451; MUCO 251, 451; MUNM 251, 451) (0 cr) Prereq: 2.0 GPA. *Audition required. Must meet and maintain full-time enrollment status at UNL.* For course description, see MUDC 451.

**052. Chamber Music** (MUDC, MUCO, MUNM 352) (0 cr) *Off-campus performances as approved. Open only to students whose applied related instrument is piano, organ, or guitar.*

For course description, see MUDC 352.

**053. Jazz Ensemble** (MUDC 253, 453; MUCO 253, 453; MUNM 253, 453) (0 cr) Stu 3. *Open by audition or permission of the Director of Jazz Activities. Auditions held the weekend before each term. Performances are held on and off campus as approved by the Director of Jazz Activities and the Director of the School of Music.* For course description, see MUDC 453.

- A. Jazz Ensemble I (0 cr)
- B. Jazz Ensemble II (0 cr)
- E. Jazz Vocal Ensemble (0 cr)

**241. All-Collegiate Choir** (MUDC 241, 441; MUCO 041, 441; MUNM 241, 441) (1 cr, max 12 I, II) *Audition not required. Off-campus performance as approved by the instructor and the Director of the School of Music.*

For course description, see MUDC 441.

- A. City Campus Choir (1 cr, max 12)
- B. East Campus Choir (1 cr, max 12)

**242. Concert Choir** (MUDC 242; MUCO 042; MUNM 242) (1 cr, max 12) Stu 3. Prereq: Freshman standing; music major and/or minor. *Open to freshman only, others by conductor's permission. Begin or continue previous choral experience.*

For course description, see MUDC 242.

**243. Varsity Chorus** (MUDC 243, 443; MUCO 043, 443; MUNM 243, 443) (1 cr, max 12) Stu 3. Prereq: Tenor or bass voice. *Audition not required. Off-campus performance as approved by the instructor and the Director of the School of Music.* For course description, see MUDC 443.

**245. The University Singers** (MUDC 245, 445; MUCO 045, 445; MUNM 245, 445) (1 cr, max 12) Stu 3. *Audition required. Performances on and off campus as approved by the instructor and the Director of the School of Music.*

For course description, see MUDC 445.

**246. University Chorale** (MUDC 246, 446; MUCO 046, 446; MUNM 246, 446) (1 cr per sem, max 12) Stu 3. *Off-campus performances as approved by the instructor and the Director of the School of Music.*

For course description, see MUDC 446.

**247. Symphony Orchestra** (MUDC 247, 447; MUCO 047, 447; MUNM 247, 447) (1 cr, max 12) Stu. *Open only upon examination. Off-campus performances as approved by the instructor and the Director of the School of Music. May include collaborations with faculty, students, or guest soloists, and with choral ensembles.* For course description, see MUDC 447.

**248. Band** (MUCO 048, 448; MUDC 248, 448; MUNM 248, 448) (1 cr, max 12) Stu 3. *Audition or permission of director of ensemble. May require off-campus travel as approved.*

For course description, see MUDC 448.

- A. **Wind Ensemble** (1 cr, max 12)
- B. **Symphonic Band** (1 cr, max 12)
- D. **Campus Band** (1 cr, max 12)
- E. **Marching Band** (1 cr, max 12) Prereq: 2.0 GPA. *Audition required. Must meet and maintain full-time enrollment status at UNL. Requires off-campus performances as approved. First round auditions must be completed by July 1.*

**249. Chamber Singers** (MUDC 249, 449; MUCO 049, 449; MUNM 249, 449) (1 cr, max 12) Stu. *Audition required. Off-campus performances as approved by instructor and the Director of the School of Music.*

For course description, see MUDC 449.

**251. Big Red Singers** (MUDC 251, 451; MUCO 051, 451; MUNM 251, 451) (1 cr, max 12) Stu 5. Prereq: 2.0 GPA. *Audition required. Must meet and maintain full-time enrollment status at UNL.*

For course description, see MUDC 451.

**253. Jazz Ensemble** (MUCO 053, 453; MUDC 253, 453; MUNM 253, 453) (1 cr, max 12) Stu 3. *Open by audition or permission of the Director of Jazz Activities. Auditions held the weekend before each term. Performances are held on and off campus as approved by the Director of Jazz Activities and the Director of the School of Music.*

For course description, see MUDC 453.

- A. **Jazz Ensemble I** (1 cr, max 12)
- B. **Jazz Ensemble II** (1 cr, max 12)
- E. **Jazz Vocal Ensemble** (1 cr, max 12)

**344. Small Ensembles** (MUCO 044, MUNM 344) (1 cr, max 12) Stu 3. *Requires off-campus performances as approved.*

Small groups of primarily like instruments organized for supervised and scheduled rehearsals of music appropriate for the ensemble.

- A. **String Ensemble** (1 cr, max 12)
- E. **Brass Ensemble** (1 cr, max 12)
- I. **Clarinet Choir** (1 cr, max 12)
- J. **Flute Ensemble** (1 cr, max 12)
- L. **Trombone Ensemble** (1 cr, max 12)
- M. **Horn Ensemble** (1 cr, max 12)
- P. **Percussion Ensemble** (1 cr, max 12)
- T. **Saxophone Ensemble** (1 cr, max 12)
- U. **New Music Consort** (1 cr, max 12)
- V. **Small Vocal Ensemble** (1 cr, max 12)
- W. **Tuba/Euphonium Ensemble** (1 cr, max 12)
- Y. **Jazz Small Group** (1 cr, max 12)
- Z. **Pep Band** (1 cr, max 12) Stu 3. Prereq: 2.0 GPA. *Audition required. Must meet and maintain full-time enrollment status at UNL. May require off-campus travel.*

**352. Chamber Music** (MUDC 352; MUCO 052; MUNM 352) (1 cr, max 12) Stu 2. *Off-campus performances as approved. Open only to students whose applied related instrument is piano, organ, or guitar.*

For course description, see MUDC 352.

**440A/840A. Accompanying Vocal** (MUDC 440A/840A) (1 cr, max 5) Prereq: Permission.

**440B/840B. Accompanying Instrumental** (MUDC 440B/840B) (1 cr, max 5)

**441. All-Collegiate Choir** (MUDC 241, 441; MUCO 041, 241; MUNM 241, 441) (1 cr, max 12 I, II) *Audition not required. Off-campus performance as approved by the instructor and the Director of the School of Music.*

For course description, see MUDC 441.

- A. **City Campus Choir** (1 cr, max 12)
- B. **East Campus Choir** (1 cr, max 12)

**443. Varsity Chorus** (MUDC 243, 443; MUCO 043, 243; MUNM 243, 443) (1 cr, max 12) Stu 3. Prereq: Tenor or bass voice. *Audition not required. Off-campus performance as approved by the instructor and the Director of the School of Music.* For course description, see MUDC 443.

**445. The University Singers** (MUDC 245, 445; MUCO 045, 245; MUNM 245, 445) (1 cr, max 12) Stu 3. *Audition required. Performances on and off campus as approved by the instructor and the Director of the School of Music.*

For course description, see MUDC 445.

**446. University Chorale** (MUDC 246, 446; MUCO 046, 246; MUNM 246, 446) (1 cr per sem, max 12) Stu 3. *Off-campus performances as approved by the instructor and the Director of the School of Music.*

For course description, see MUDC 446.

**447. Symphony Orchestra** (MUDC 247, 447; MUCO 047, 247; MUNM 247, 447) (1 cr, max 12) Stu. *Open only upon examination. Off-campus performances as approved by the instructor and the Director of the School of Music. May include collaborations with faculty, students, or guest soloists, and with choral ensembles.* For course description, see MUDC 447.

**448. Band** (MUDC 248, 448; MUCO 048, 248; MUNM 248, 448) (1 cr, max 12) Stu 3. *Audition or permission of director of ensemble. May require off-campus travel as approved.*

For course description, see MUDC 448.

- A. **Wind Ensemble** (1 cr, max 12)
- B. **Symphonic Band** (1 cr, max 12)
- D. **Campus Band** (1 cr, max 12)

- E. **Marching Band** (1 cr, max 12) Prereq: 2.0 GPA. *Audition required. Must meet and maintain full-time enrollment status at UNL. Requires off-campus performances as approved. First round auditions must be completed by July 1.*

**449. Chamber Singers** (MUDC 249, 449; MUCO 049, 249; MUNM 249, 449) (1 cr, max 12) Stu. *Audition required. Off-campus performances as approved by instructor and the Director of the School of Music.*

For course description, see MUDC 449.

**451. Big Red Singers** (MUDC 251, 451; MUCO 051, 251; MUNM 251, 451) (1 cr, max 12) Stu 5. Prereq: 2.0 GPA. *Audition required. Must meet and maintain full-time enrollment status at UNL.*

For course description, see MUDC 451.

**453. Jazz Ensemble** (MUDC 253, 453; MUCO 053, 253; MUNM 253, 453) (1 cr, max 12) Stu 3. *Open by audition or permission of the Director of Jazz Activities. Auditions held the weekend before each term. Performances are held on and off campus as approved by the Director of Jazz Activities and the Director of the School of Music.*

For course description, see MUDC 453.

- A. **Jazz Ensemble I** (1 cr, max 12)
- B. **Jazz Ensemble II** (1 cr, max 12)
- E. **Jazz Vocal Ensemble** (1 cr, max 12)

**\*844. Music Ensemble** (1 cr per sem, max 4 applicable toward degree requirements)

- A. **String Ensemble** (1 cr, max 4)
- E. **Brass Ensemble** (1 cr, max 4)
- I. **Clarinet Choir** (1 cr, max 4)
- J. **Flute Ensemble** (1 cr, max 4)
- L. **Trombone Ensemble** (1 cr, max 4)
- M. **Horn Ensemble** (1 cr, max 4)
- P. **Percussion Ensemble** (1 cr, max 4)
- T. **Saxophone Ensemble** (1 cr, max 4)
- U. **New Music Consort** (1 cr, max 4)
- V. **Small Vocal Ensemble** (1 cr, max 4)
- W. **Tuba/Euphonium Ensemble** (1 cr, max 4)
- Y. **Pep Band** (1 cr, max 4) Stu 3. Prereq: 2.0 GPA. *Audition required. Must meet and maintain full-time enrollment status at UNL. May require off-campus travel.*
- Z. **Jazz Small Group** (1 cr, max 12)

## Recitals (MUSR)

Students must be concurrently enrolled in major applied lessons during the semester the recital is given.

**068. Recital Attendance** (0 cr) *Pass/No Pass only.*

Opportunity for multiple student performances. Appearances by guest artists. Forum to consider administrative matters in the School of Music.

**090. Sophomore or Junior Recital in Applied Music** (0 cr)

**091. Senior Recital in Applied Music** (2 cr of 400-level applied music)

**098. Graduate Recital in Applied Music** (0 cr)

**490. Recital in Applied Music** (2 cr of 400-level applied music)

## Music for Non-majors (MUNM)

**NOTE:** With the exception of MUSC/MUNM 168, 268, 280, and 370H, the following MUNM courses do not satisfy the requirements toward a major in music.

**168. Beginning Jazz Improvisation** (MUSC 168) (2 cr, max 2)

Prereq: Ability to read standard musical notation.

For course description, see MUSC 168.

**198. Special Topics in Music** (1-4 cr, max 4)

**268. Intermediate Jazz Improvisation** (MUSC 268) (2 cr, max 2) Prereq: MUSC/MUNM 168 or permission.

For course description, see MUSC 268.

**(ACE 7) 275. Music in Film** (3 cr) Lec 3.

Survey of the development of film music from the perspective of important composers, film scores, and compositional practices that have formed what is known as "film music." Focus on American films and scores in appropriate media and historical contexts.

**(ACE 7) [ES][IS] 276G. The Music Experience** (3 cr, max 3)

Through directed listening to compositions chosen from the music literature—one of the great literatures of Western culture—the course attempts to teach the non-musician how to listen to and appreciate the human and cultural values of music as well as to become familiar with historical and stylistic views of music, the significance of music in cultural history, and the understanding of music as aesthetic expression.

**[ES][IS] 277. Art Music in the Western World** (MUSC 277) (3 cr, max 3)

Classical music in the Western European high art tradition from Gregorian chant to the present.

**(ACE 7, 9) [ES][IS] 280. World Music** (MUSC 280) (3 cr, max 3)

For course description, see MUSC 280.

**281. Music in Africa** (3 cr, max 3)

Survey of various musical types in Africa.

**(ACE 7) [ES][IS] 287. The History of Rock Music** (3 cr, max 3)

Prereq: Sophomore standing.

Survey of the history of rock music including its antecedents in Rhythm and Blues and Country. Two areas: a musical focus on musical characteristics and evolving musical styles, and a consideration of the sociopolitical impact rock music has had on late twentieth century life.

**[ES][IS] 301. Music and Sports: Performance and Perception** (3 cr) Lec. Prereq: Sophomore standing.

Comparison and contrast of the domains of music and sports from the perspective of the performer. Personal characteristics and experiences that make music and sports performers unique and principles involved in skill improvement (e.g., motivation, practice, performance anxiety). Roles that music and sports play in society.

**[ES][IS] 370H. Honors: Women Making Music** (MUSC 370H) (3 cr, max 3) Prereq: Good standing in the University Honors Program or by permission.

For course description, see MUSC 370H.

**(ACE 7) [ES] 387. History of American Jazz** (3 cr, max 3) Prereq: Sophomore standing.

Survey of the development of American jazz music from the late nineteenth century to the present, with emphasis on Black ethnic origins and the stylistic idioms of individual performers.

**[ES] 388. Arts of the 20th Century: 1900-1945** (AHIS, THEA 388) (3 cr, max 3) AHIS/MUNM/THEA 388 will not count toward the major or minor in studio art and/or art history.

For course description, see AHIS 388.

[ES] 389. **Arts of the 20th Century: 1945-Present** (AHIS, THEA 389) (3 cr) Lec 3. *AHIS/MUNM/THEA 389 will not count toward the major or minor in studio art and/or art history.*  
For course description, see AHIS 389.

(ACE 5, 7) [ES][IS] 450. **American Cultural Perspectives through Popular Music and Guitar** (TEAC, MUED 450/850) (3 cr, max 3)

For course description, see MUED 450/850.

## Applied Music for Non-majors (MUNM)

Applied music instruction is available to non-music majors or minors on a space-available basis. Students are required to obtain permission from the faculty member before registration is completed. There is an \$80 fee in addition to tuition charge. The fee will be assessed on the student's tuition statement.

All students taking applied music must perform in an ensemble unless their instructor determines they are not qualified to do so. Students audition and participate in an ensemble during each semester of applied study.

For registration, each student must obtain a written permission form from the music office each semester. The permission form provides the information the student must have in order to register. Early registration for applied lessons for nonmajors is not allowed.

Students will use 100-level applied music registrations until they have 4 credits, at which time they will register in the 200 series. Eight applied music credits must be accumulated before registering in the 300 series. Twelve credits are required for registering at the 400 level.

100. **Beginning Applied Music** (1 cr per sem, max 4) Prereq: Permission and written permission from School of Music. *May not count toward requirements for music major or minor. No pre-registration, since majors and minors must be assigned first to the available instructors. Applied music instruction fee of \$80 will be charged in addition to tuition for credit hour. Grade only.*

Applied music lessons in voice or instrument for beginners; private or group, at instructor's discretion.

- A. Voice (1 cr, max 4)
- B. Keyboard (1 cr, max 4)
- C. Strings (1 cr, max 4)
- D. Brass (1 cr, max 4)
- E. Woodwind (1 cr, max 4)
- J. Percussion (1 cr, max 4)

200. **Applied Music** (1 cr per sem, max 4 at each level) Prereq: Permission and written permission from School of Music. Grade only. *May not count toward requirements for music major or minor. No preregistration, since majors and minors must be assigned first to the available instructors. Applied music instruction fee of \$80 will be charged in addition to tuition for credit hour.*

Applied music lessons in voice or instrument for beginners; private or group, at instructor's discretion.

- A. Voice (1 cr, max 4)
- B. Keyboard (1 cr, max 4)
- C. Strings (1 cr, max 4)
- D. Brass (1 cr, max 4)
- E. Woodwind (1 cr, max 4)
- J. Percussion (1 cr, max 4)

300. **Applied Music** (1 cr per sem, max 4 at each level) Prereq: Permission and written permission from School of Music. Grade only. *May not count toward requirements for music major or minor. No preregistration, since majors and minors must be assigned first to the available instructors. Applied music instruction fee of \$80 will be charged in addition to tuition for credit hour.*

Applied music lessons in voice or instrument for beginners; private or group, at instructor's discretion.

- A. Voice (1 cr, max 4)
- B. Keyboard (1 cr, max 4)
- C. Strings (1 cr, max 4)
- D. Brass (1 cr, max 4)
- E. Woodwind (1 cr, max 4)
- J. Percussion (1 cr, max 4)

400. **Applied Music** (1 cr per sem, max 4 at each level) Prereq: Permission and written permission from School of Music. Grade only. *May not count toward requirements for music major or minor. No preregistration, since majors and minors must be assigned first to the available instructors. Applied music instruction fee of \$80 will be charged in addition to tuition for credit hour.*

Applied music lessons in voice or instrument for beginners; private or group, at instructor's discretion.

- A. Voice (1 cr, max 4)
- B. Keyboard (1 cr, max 4)
- C. Strings (1 cr, max 4)
- E. Brass (1 cr, max 4)
- G. Woodwind (1 cr, max 4)
- J. Percussion (1 cr, max 4)

## Ensembles for Non-majors (MUNM)

School of Music ensembles are open to any UNL student. An audition is required for each ensemble.

241. **All-Collegiate Choir** (MUDC 241, 441; MUCO 041, 241, 441; MUNM 441) (1 cr, max 12 I, II) *Audition not required. Off-campus performance as approved by the instructor and the Director of the School of Music.*

For course description, see MUDC 441.

- A. City Campus Choir (1 cr, max 12)
- B. East Campus Choir (1 cr, max 12)

242. **Concert Choir** (MUDC 242; MUCO 042, 242) (1 cr, max 12) Stu 3. Prereq: Freshman standing; music major and/or minor. *Open to freshman only, others by conductor's permission. Begin or continue previous choral experience.*

For course description, see MUDC 242.

243. **Varsity Chorus** (MUDC 243, 443; MUCO 043, 243, 443; MUNM 443) (1 cr, max 12) Stu 3. Prereq: Tenor or bass voice. *Audition not required. Off-campus performance as approved by the instructor and the Director of the School of Music.*

For course description, see MUDC 443.

245. **The University Singers** (MUDC 245, 445; MUCO 045, 245, 445; MUNM 445) (1 cr, max 12) Stu 3. *Audition required. Performances on and off campus as approved by the instructor and the Director of the School of Music.*

For course description, see MUDC 445.

246. **University Chorale** (MUDC 246, 446; MUCO 046, 246, 446; MUNM 446) (1 cr per sem, max 12) Stu 3. *Off-campus performances as approved by the instructor and the Director of the School of Music.*

For course description, see MUDC 446.

247. **Symphony Orchestra** (MUDC 247, 447; MUCO 047, 247, 447; MUNM 447) (1 cr, max 12) Stu. *Open only upon examination. Off-campus performances as approved by the instructor and the Director of the School of Music. May include collaborations with faculty, students, or guest soloists, and with choral ensembles.*

For course description, see MUDC 447.

248. **Band** (MUCO 048, 248, 448; MUDC 248, 448; MUNM 448) (1 cr, max 12) Stu 3. *Audition or permission of director of ensemble. May require off-campus travel as approved.*

For course description, see MUDC 448.

- A. Wind Ensemble (1 cr, max 12)
- B. Symphonic Band (1 cr, max 12)
- C. Campus Band (1 cr, max 12)
- E. Marching Band (1 cr, max 12) Prereq: 2.0 GPA. *Audition required. Must meet and maintain full-time enrollment status at UNL. Requires off-campus performances as approved. First round auditions must be completed by July 1.*

249. **Chamber Singers** (MUDC 249, 449; MUCO 049, 249, 449; MUNM 449) (1 cr, max 12) Stu. *Audition required. Off-campus performances as approved by instructor and the Director of the School of Music.*

For course description, see MUDC 449.

251. **Big Red Singers** (MUDC 251, 451; MUCO 051, 251, 451; MUNM 451) (1 cr, max 12) Stu 5. Prereq: 2.0 GPA. *Audition required. Must meet and maintain full-time enrollment status at UNL.*

For course description, see MUDC 451.

253. **Jazz Ensemble** (MUCO 053, 253, 453; MUDC 253, 453; MUNM 453) 1 cr, max 12 Stu 3. *Open by audition or permission of the Director of Jazz Activities. Auditions held the weekend before each term. Performances are held on and off campus as approved by the Director of Jazz Activities and the Director of the School of Music.*

For course description, see MUDC 453.

- A. Jazz Ensemble I (1 cr, max 12)
- B. Jazz Ensemble II (1 cr, max 12)
- E. Jazz Vocal Ensemble (1 cr, max 12)

344. **Small Ensembles** (MUCO 044, 344) (1 cr, max 12) Stu 3. *Requires off-campus performances as approved.*

For course description, see MUCO 344.

- A. String Ensemble (1 cr, max 12)
- E. Brass Ensemble (1 cr, max 12)
- I. Clarinet Choir (1 cr, max 12)
- J. Flute Ensemble (1 cr, max 12)
- L. Trombone Ensemble (1 cr, max 12)
- M. Horn Ensemble (1 cr, max 12)
- P. Percussion Ensemble (1 cr, max 12)
- T. Saxophone Ensemble (1 cr, max 12)
- U. New Music Consort (1 cr, max 12)
- V. Small Vocal Ensemble (1 cr, max 12)
- W. Tuba/Euphonium Ensemble (1 cr, max 12)
- Y. Jazz Small Group (1 cr, max 12)
- Z. Pep Band (1 cr, max 12) Stu 3. Prereq: 2.0 GPA. *Audition required. Must meet and maintain full-time enrollment status at UNL. May require off-campus travel.*

352. **Chamber Music** (MUDC 352; MUCO 052, 352) (1 cr, max 12) Stu 2. *Off-campus performances as approved. Open only to students whose applied related instrument is piano, organ, or guitar.*

For course description, see MUDC 352.

441. **All-Collegiate Choir** (MUDC 241, 441; MUCO 041, 241, 441; MUNM 241) (1 cr, max 12 I, II) *Audition not required. Off-campus performance as approved by the instructor and the Director of the School of Music.*

For course description, see MUDC 441.

- A. City Campus Choir (1 cr, max 12)
- B. East Campus Choir (1 cr, max 12)

443. **Varsity Chorus** (MUDC 243, 443; MUCO 043, 243, 443; MUNM 243) (1 cr, max 12) Stu 3. Prereq: Tenor or bass voice. *Audition not required. Off-campus performance as approved by the instructor and the Director of the School of Music.*

For course description, see MUDC 443.

445. **The University Singers** (MUDC 245, 445; MUCO 045, 245, 445; MUNM 245) (1 cr, max 12) Stu 3. *Audition required. Performances on and off campus as approved by the instructor and the Director of the School of Music.*

For course description, see MUDC 445.

446. **University Chorale** (MUDC 246, 446; MUCO 046, 246, 446; MUNM 246) (1 cr per sem, max 12) Stu 3. *Off-campus performances as approved by the instructor and the Director of the School of Music.*

For course description, see MUDC 446.

447. **Symphony Orchestra** (MUDC 247, 447; MUCO 047, 247, 447; MUNM 247) (1 cr, max 12) Stu. *Open only upon examination. Off-campus performances as approved by the instructor and the Director of the School of Music. May include collaborations with faculty, students, or guest soloists, and with choral ensembles.*

For course description, see MUDC 447.

448. **Band** (MUDC 248, 448; MUCO 048, 248, 448; MUNM 248) (1 cr, max 12) Stu 3. *Audition or permission of director of ensemble. May require off-campus travel as approved.*

For course description, see MUDC 448.

- A. Wind Ensemble (1 cr, max 12)
- B. Symphonic Band (1 cr, max 12)
- D. Campus Band (1 cr, max 12)
- E. Marching Band (1 cr, max 12) Prereq: 2.0 GPA. *Audition required. Must meet and maintain full-time enrollment status at UNL. Requires off-campus performances as approved. First round auditions must be completed by July 1.*

449. **Chamber Singers** (MUDC 249, 449; MUCO 049, 249, 449; MUNM 249) (1 cr, max 12) Stu. *Audition required. Off-campus performances as approved by instructor and the Director of the School of Music.*

For course description, see MUDC 449.

**451. Big Red Singers** (MUDC 251, 451; MUCO 051, 251, 451; MUNM 251) (1 cr, max 12) Stu 5. Prereq: 2.0 GPA. *Audition required. Must meet and maintain full-time enrollment status at UNL. For course description, see MUDC 451.*

**453. Jazz Ensemble** (MUDC 253, 453; MUCO 053, 253, 453; MUNM 253) (1 cr, max 12) Stu 3. *Open by audition or permission of the Director of Jazz Activities. Auditions held the weekend before each term. Performances are held on and off campus as approved by the Director of Jazz Activities and the Director of the School of Music.*

For course description, see MUDC 453.

- A. **Jazz Ensemble I** (1 cr, max 12)
- B. **Jazz Ensemble II** (1 cr, max 12)
- E. **Jazz Vocal Ensemble** (1 cr, max 12)

## Musical Theatre

(Minor only)

Theatre and music majors at the University of Nebraska may elect to specialize in musical theatre through the minor in musical theatre. Students will elect to pursue a bachelors degree in either music or theatre arts and must audition to be accepted as a major in music or theatre. **Theatre students must also audition for the School of Music voice faculty for acceptance as a musical theatre minor.**

### Requirements for the Minor in Musical Theatre for Theatre Majors (Plan A) (25 cr)

- MUSC 101, 131, 132, 165, 165A (8 cr)
- MUOP 455 (3 cr)
- Applied voice (5 cr)
- Choral ensembles (2 cr)
- Productions (2 cr)
- Dance (movement) courses (5 cr)

### Requirements for the Minor in Musical Theatre for Music Majors (Plan A) (25 cr)

- THEA 112G, 114, 115, 234, 255, 285 or 286, 455 (20 cr)
- Dance (movement) courses (5 cr)

## Theatre Arts

**Director:** Paul Steger, 215 Temple Building

**Professors:** Grange, Steger

**Associate Professors:** Brown, Endacott, H. Smith, V. Smith, E. Stauffer, J. Stauffer, Teo

**Assistant Professors:** Parker, Veneziano

**Assistant Professor of Practice:** Borden

The Johnny Carson School of Theatre and Film offers the bachelor of arts degree with emphases in performance or directing, dramaturgy, and stage management, and the bachelor of fine arts degree with emphases in design/technical production or film and new media. **An audition is required for acceptance into the BA performance emphasis. A separate application and portfolio review is required for acceptance into either the BFA film and new media emphasis or BA directing and management emphasis.**

Dual registration in the Hixson-Lied College of Fine and Performing Arts and the College of Education and Human Sciences leading to a major in speech and dramatic art with teacher certification

is also possible. For information on programs leading to degrees with teacher certification see the College of Education and Human Sciences section of this bulletin.

### Grade Restrictions for Theatre Arts

Students in all degree programs are required to earn a minimum grade of C+ in all courses that count toward their major. Courses in which a student earns a grade of C or below must be repeated in order to count toward the requirement.

No courses for the major may be taken Pass/No Pass except those offered only as Pass/No Pass.

### Requirements for the Major in Theatre Arts

#### Bachelor of Arts Degree

The requirements for the bachelor of arts degree consist of 39 credit hours of core requirements which are supplemented by 22 additional credit hours of theatre arts courses in one of two designated emphases for a total of 61 credit hours in the major. No minor is required.

Upon admission to the degree program, students may begin to pursue either of the two emphases.

Both new and transfer students wishing to complete the **performance emphasis** must audition for the program. Review and screening for continuation in this emphasis are done when students are enrolled in THEA 223 Intermediate Acting I (typically their third semester as theatre majors). The review includes an interview, an audition, and an analysis of the overall academic and artistic record; all of which are used to determine potential for success throughout the course of study. Approved students are permitted to enroll in THEA 224 Intermediate Acting II and in subsequent required performance emphasis courses.

Students must apply for admission to the **directing and management emphasis** by completing an application form, supplying references, a resume, and examples of creative work. The acceptance process for both new and transfer students includes an interview and analysis of the overall academic and artistic record, and determination of the potential for success throughout the course of study. An interview/evaluation will be scheduled with directing and management students after their third semester to determine whether they may continue in the program.

#### ACE Requirements ..... 30

*All courses must be selected from the lists found under "ACE Courses" on page 383, unless otherwise noted.*

#### Languages: Classical & Modern ..... 0-16

#### Library 110 ..... 1

#### Theatre Core Requirements ..... 39

- THEA 112G. Intro to Theatre (3 cr)
- THEA 114. Basic Acting I (3 cr)
- THEA 115. Basic Acting II (3 cr)
- THEA 201. Technical Theatre Practice (3 cr)
- THEA 202. Play Direction I (3 cr)
- THEA 204. Stage Makeup (3 cr)
- THEA 223. Intermediate Acting I (3 cr)
- THEA 234. Scripts in Performance (3 cr)
- THEA 253. Voice Production for the Stage (3 cr)
- THEA 255. Stage Movement I (3 cr)
- THEA 335. History of Theatre I (3 cr)
- THEA 336. History of Theatre II (3 cr)
- THEA 472. Theatre Perspectives (3 cr)

**Emphasis Requirements.....22**  
*Select from list of emphases below.*

**Electives ..... 17-33**

**Total hours required for graduation ..... 125**

#### Performance Emphasis (22 cr)

THEA 224. Intermediate Acting II (3 cr)

THEA 254. Stage Diction and Dialects (3 cr)

THEA 256. Stage Movement II (3 cr)

THEA 401. Advanced Acting (9 cr)

THEA 408. Advanced Projects in Acting &/or Directing (1 cr)

#### *One course from:*

THEA 120. Principles of Design for Theatre & Film (3 cr)

THEA 410. Stage Lighting I (3 cr)

THEA 412. Scene Design I (3 cr)

THEA 418. Costume Design I (3 cr)

THEA 450. Sound Design I (3 cr)

#### Directing and Management Emphasis (22 cr)

THEA 300. Stage Management (3 cr)

THEA 301. Theatre Management (3 cr)

THEA 303. Stage Directing II (3 cr)

THEA 491. Advanced Projects in Directing, Stage Management &/or Theatre Management (4 cr)

#### *Three courses from:*

THEA 331. Intro to Playwriting (3 cr)

THEA 410. Stage Lighting I (3 cr)

THEA 411. Stage Lighting II (3 cr)

THEA 412. Scene Design I (3 cr)

THEA 413. Scene Design II (3 cr)

THEA 418. Costume Design I (3 cr)

THEA 419. Costume Design II (3 cr)

THEA 450. Sound Design I (3 cr)

THEA 451. Sound Design II (3 cr)

### Bachelor of Fine Arts Degree

This degree program offers two emphases, one in design/technical production and the other in film and new media. The design/technical production emphasis is for those desiring concentrated training/education in scenic, lighting, sound, and costume design, and technical theatre production. The student does not pursue a minor. Other theatre arts courses may be taken as electives in the major. The film and new media emphasis (FNM) is for those desiring concentrated training/education in film and new media technology, screen writing, new media design, digital media content, film special effects, film producing and directing. **The student does not pursue a minor.** Other theatre arts courses may be taken as electives in the major.

#### ACE Requirements ..... 30

*All courses must be selected from the lists found under "ACE Courses" on page 383, unless otherwise noted.*

#### Library 110 ..... 1

#### Theatre Core Requirements ..... 21

THEA 112G. Intro to Theatre (3 cr)

THEA 114. Basic Acting I (3 cr)

THEA 120. Principles of Design for Theatre & Film (3 cr)

THEA 201. Technical Theatre Practice (3 cr)

THEA 202. Play Direction I (3 cr)

THEA 234. Scripts in Performance (3 cr)

THEA 423. Rendering I (3 cr)

#### Emphasis Requirements ..... 48-54

*Select from list of emphases below.*

#### Electives ..... 19-25

#### Total hours required for graduation ..... 125

#### Design/Technical Production Emphasis (54 cr)

THEA 285/286. University Theatre (2 cr)

THEA 335. Theatre History I (3 cr)

THEA 336. Theatre History II (3 cr)

THEA 409. Advanced Projects in Technical Theatre (4 cr)

THEA 410. Stage Lighting I (3 cr)

THEA 411. Stage Lighting II (3 cr)

THEA 412. Scene Design I (3 cr)

THEA 413. Scene Design II (3 cr)

THEA 418. Costume Design I (3 cr)  
 THEA 419. Costume Design II (3 cr)  
 THEA 421. Drafting for the Theatre (3 cr)  
 THEA 432. Scene Painting (3 cr)  
 THEA 450. Sound Design I (3 cr)  
 THEA 472. Theatre Perspectives (3 cr)  
 IDES 445. History of Furniture (3 cr)  
 TXCD 407. History of Costume (3 cr)  
 Two courses from the following: *(additional courses may be taken for elective credit)*  
 THEA 204. Stage Makeup (3cr)  
 THEA 300. Stage Management (3cr)  
 THEA 416. CAD for Theatre (3cr)  
 THEA 420. Problems in Technical Theatre (3cr)  
 THEA 451. Sound Design II (3cr)  
 THEA 457. Stage Rigging I (3cr)  
 Recommended electives in Theatre:  
 THEA 303. Play Direction II (3cr)  
 THEA 331. Intro to Playwriting (3cr)  
 THEA 414. Stage Lighting III (3cr)  
 THEA 422. Theatre Architecture (3cr)  
 THEA 426. Lighting for Film (3cr)  
 THEA 431. Advanced Playwriting (3cr)  
 THEA 480. Technological Innovations in Film Production (3cr)  
 THEA 481. Screenwriting: The Short Script (3cr)  
 THEA 482. Film Production I (3cr)  
 THEA 487. Digital Design & Animation (3cr)  
 THEA 488. New Media Production I (3cr)  
 THEA 489. Film Production II (3cr)

**Film and New Media Emphasis (48 cr) (for application information, see below)**

THEA 479. Capstone Project in Film or New Media (3 cr)  
 THEA 480. Technological Innovations in Film Production (3 cr)  
 THEA 481. Screenwriting: The Short Script (3 cr)  
 THEA 482. Film Production I (3 cr)  
 THEA 488. New Media Production I: Web Site Design (3 cr)  
 THEA 489. Film Production II (3 cr)  
 A total of 9 cr from:  
 THEA 410. Stage Lighting I (3 cr)  
 THEA 411. Stage Lighting II (3 cr)  
 THEA 412. Scene Design I (3 cr)  
 THEA 413. Scene Design II (3 cr)  
 THEA 414. Stage Lighting III (3 cr)  
 THEA 418. Costume Design I (3 cr)  
 THEA 419. Costume Design II (3 cr)  
 THEA 450. Sound Design I (3 cr)  
 THEA 451. Sound Design II (3 cr)

*Electives: In addition to the Film and New Media Emphasis Requirements listed above, FNM Emphasis students must take at least 24 credits from the following list of elective courses. No more than 9 credits may be taken from the list of English Department courses.*

THEA 331. Intro to Playwriting (3 cr)  
 THEA 415. Production Design for Film & Television (3 cr)  
 THEA 416. CAD for the Theatre (3 cr)  
 THEA 426. Lighting for Film (3 cr)  
 THEA 454. Sound for Film (3 cr)  
 THEA 484. Advanced Projects in Film Production and/or New Media (3 cr)  
 THEA 485. Post Production for Film & New Media (3 cr)  
 THEA 486. Film: Producing & Directing (3 cr)  
 THEA 487. Digital Design & Animation I (3 cr)  
 THEA 494. Internship in Theatre or Film (3 cr)  
 ENGL 209. Film: The Documentary (3 cr)  
 ENGL 213. Intro to Film History (3 cr)  
 ENGL 219. Film Genre (3 cr)  
 ENGL 239. Film Directors (3 cr)  
 ENGL 239B. Women Filmmakers (3 cr)  
 ENGL 259A. Writing for Films (3 cr)  
 ENGL 269. Film Periods (3 cr)  
 ENGL 313B. The Film Industry (3 cr)  
 ENGL 349. National Cinemas (3 cr)  
 ENGL 373. Film Theory & Criticism (3 cr)  
 ENGL 439/839. Film Directors (3 cr)  
 ENGL 459/859. Writing for Film & TV (3 cr)

## Application to the Film and New Media Emphasis

Students must apply for admission to the BFA emphasis in Film and New Media (FNM) by completing an application form and supplying references, a resume and examples of creative work. This application applies to both new students and transfer students. Students who are applying for transfer into the program must complete the application and provide grade transcripts demonstrating a 3.0 current and cumulative GPA or higher. Students should contact the Johnny Carson School of Theatre and Film for information and application materials.

Once the application materials have been received, the student will be notified by the school if accepted to the FNM emphasis. Once accepted, a student must maintain a 3.0 current and cumulative GPA from that point forward, complete a portfolio review (after taking THEA 482), and receive approval from the FNM faculty before they may granted full FNM student status. The Johnny Carson School of Theatre and Film reserves the right to limit the total number of FNM students accepted and FNM students allowed to continue in the emphasis.

## Requirements for the Minor in Theatre Arts (Plan A) (18 hours)

- THEA 112G, 114, 201, 202, 335 or 336 (15 cr) 3 hrs from the following: THEA 115, 234, 300, 410, 412, 418

## Courses of Instruction

### Theatre (THEA)

(ACE 7) [ES][IS] 112G. **Introduction to Theatre** (3 cr)  
 Introduction to the forms and functions of theatre and dramatic literature in the historical development of Western cultural traditions. While the theatre always reflects the aesthetic and philosophical concerns of the cultural era, the objective of the course is to determine the unique aesthetics of the theatre as an art form by exploring such issues as the relationship between the literary text and the text in performance; the changing role of theatre in culture historically; the various theatre research methods (historical, critical, experimental).

(ACE 7) [ES][IS] 112H. **Honors: Introduction to Theatre** (3 cr)  
 Prereq: Good standing in the University Honors Program or by invitation.  
 For course description, see THEA 112G.

[ES] 114. **Basic Acting Techniques I** (3 cr)  
 Introduction to the essentials of the actor's craft; concentration, relaxation, sensory awareness, improvisation, and basic script analysis.

115. **Basic Acting Techniques II** (3 cr) Prereq: THEA 114.  
 Continuation of THEA 114, with greater emphasis on the development of emotional control as it applies to scene work.

120. **Principles of Design for Theatre and Film** (3 cr) Lec, lab.  
 Prereq: Theatre major or permission.  
 Introduction of the basic elements of design and the development of visual and perceptual skills. Develop an extensive portfolio of 2D and 3D visual projects through experimentation with various media.

[IS] 189H. **University Honors Seminar** (3 cr) Prereq: Good standing in the University Honors Program or by invitation.  
*University Honors Seminar 189H is required of all students in the University Honors Program.*  
 Topic varies.

### 199. Independent Study (1-3 cr, max 6) Prereq: Permission.

[ES] 201. **Technical Theatre Practice** (3 cr) Lec 2, lab 3.  
 Basic theoretical and practical application of the technical theatre production, including scenery design, construction, use and requirements and related areas that are considered scenic or influence scenery, its design and construction. Related areas include types of stages, facilities, equipment and tool use and maintenance, materials, drafting fundamentals, painting, moving scenery, properties and safety.

202. **Play Direction I** (3 cr) Lec 2, lab 2. Prereq: THEA 112G or 114, and 201, or permission.  
 Fundamental concepts of play direction, play selection, script analysis and interpretation, artistic choices, articulating of ideas, communication with actors, and critique. Rehearsal and presentation of realistic scenes.

204. **Stage Makeup** (3 cr) Prereq or parallel: 3 hrs theatre arts. Introduction to the methods and techniques of makeup.

223. **Intermediate Acting I** (3 cr) Lec 1, lab 5. Prereq: THEA 115, 253, 255 or equivalent and permission.  
 Intensive concentration, emotional and sensory work focused on the problems of characterization. Emphasis on close script analysis and scene work.

224. **Intermediate Acting II** (3 cr) Prereq: THEA 223 or equivalent and permission.  
 Continuation of THEA 223. Development of a sensitive emotional instrument as it affects characterization. Scene study and appropriate exercises in concentration and sensory development.

[ES][IS] 234. **Scripts in Performance** (3 cr) Prereq: Sophomore standing.  
 Survey of dramatic literature and texts in performance designed to provide a broad understanding of the forms and functions of drama, historically, across diverse cultural traditions. Methods for analyzing thematic issues, as those related to gender, race, and ethnicity, as they appear in 12-15 plays.

253. **Voice Production for the Stage** (3 cr) Prereq: THEA 115.  
 Training in the use of voice for the stage, including anatomy of the voice-producing mechanism, the actor's improvement of voice, breath control for the theatre, resonance and flexibility of tone for characterization, and vocal response to a wide range of emotional stimuli in dramatic literature.

254. **Stage Diction and Dialects** (3 cr) Prereq: THEA 253.  
 Application of phonetics to stage diction and dialects. Mastery for characterization on stage of the distinguishing characteristics of foreign dialects, regional variants, and stage diction.

255. **Stage Movement I** (3 cr) Prereq: THEA 115.  
 Movement training focusing on the process of building a physical characterization, physical conditioning and flexibility, kinesthetic awareness, and movement improvisation.

256. **Stage Movement II** (3 cr) Prereq: THEA 255.  
 Application of the techniques developed in THEA 255 to the plays of Shakespeare, Moliere, and selected Commedia dell'Arte.

285. **University Theatre I** (1-2 cr, max 4) Ind. Prereq: Permission. *Use of the University Theatre Laboratory.*  
 Intensive application of principles of interpretative and technical theatre practice.

286. **University Theatre II** (1-2 cr, max 4) Ind. Prereq: Permission. *Use of the University Theatre Laboratory.*  
 Intensive application of principles of interpretative and technical theatre practice.

300. **Stage Management** (3 cr) Prereq: 12 hrs THEA or permission.  
 Survey of management techniques for the theatre including theoretical and practical application.

301. **Theatre Management** (3 cr) Lec 3. Prereq: THEA 112G, 114, and 234.  
 Theatre management: strategic planning; marketing; audience development; grant writing; and company and front-of-the-house management.

**303. Play Direction II** (3 cr) Lec 1, lab 2. Prereq: THEA 202 or permission. Exploration of periods and styles of play direction from Classical Greek to contemporary American Realism and theatre for young audiences. Rehearsal and production of student directed scenes and short plays in Laboratory Theatre.

**[ES] 331. Introduction to Playwriting** (3 cr) Lec, lab. Prereq: ENGL 150 and 151. Beginning writing for the theatre; starting with the composition of short dramatic scenes and working toward the completion of a one-act play.

**[ES][IS] 335. History of Theatre I** (3 cr) Lec 3. Prereq: THEA 112G. Theatre from Ancient Greece through Elizabethan period.

**[ES][IS] 336. History of Theatre II** (3 cr) Lec 3. Prereq: THEA 112G. Theatre from French Neoclassicism to the present.

**337. Creative Drama: Improvisation with Youth** (3 cr) Prereq: 12 hrs theatre arts or permission. Survey and practical application of the major aspects of making and leading improvisation with young people.

**338. Dramaturgy** (3 cr) Prereq: THEA 202 and 234. Fundamental concepts of dramaturgy. Theoretical and practical applications.

**[ES] 388. Arts of the 20th Century: 1900-1945** (AHIS, MUNM 388) (3 cr) *AHIS/MUNM/THEA 388 will not count towards the major or minor in studio art and/or art history.* For course description, see AHIS 388.

**[ES] 389. Arts of the 20th Century: 1945-Present** (AHIS, MUNM 389) (3 cr) Lec 3. *AHIS/MUNM/THEA 389 will not count toward the major or minor in studio art and/or art history.* For course description, see AHIS 389.

**398. Special Topics in Theatre** (1-24 cr, max 24) Prereq: Permission.

**398H. Honors Course** (1 cr per sem, max 4) Prereq: Open to juniors who are candidates for degrees with distinction, with high distinction, and with highest distinction in the Hixson-Lied College of Fine and Performing Arts.

**399. Independent Study** (1-3 cr, max 6) Prereq: Permission.

**401/801. Advanced Acting** (3 cr per sem, max 12) Prereq: THEA 224, 254, 256 or equivalent and permission. Actor's methods of character development in the major styles of acting including Realistic Drama, Elizabethan, Comedy, Theatre of the Absurd, Musical Theatre, and others, and the acting profession itself. Specific content for each semester may be obtained from the teaching faculty.

**402/802. Advanced Stage Movement** (2 cr per sem, max 8) Prereq: THEA 224, 256, or equivalent and permission. Actor movement training intended for the graduate and advanced undergraduate. Focus on the process of building a physical characterization, tumbling, kinesthetic awareness, movement improvisation, period styles, court dancing, mask, Commedia dell'Arte, and stage combat.

**403/803. Advanced Stage Voice** (2 cr per sem, max 8) Prereq: THEA 224, 254, or equivalent and permission. Actor voice training intended for the graduate and advanced undergraduate. Linklater-based training supplemented by Lessac principles, phonetics, verse scansion, and dialects.

**407/807. Auditioning** (1 cr) Prereq: THEA 114, 115, 223, 224 and permission. Auditioning process, including resumes, interviews, preparation of pieces (forms, styles, and genres), cold readings, songs, etc.

**408/808. Advanced Projects in Acting and/or Directing** (408: 1-3 cr per sem, max 9; 808: 1-3 cr per sem, max 12) Prereq: (Acting) THEA 112G or 115, 114, 204, 401/801 or equivalent and permission; (Directing) THEA 203, 401/801, 403/803, 410/810, 412/812, 418/818, and permission. Selected performance in acting and directing in University Theatre, and Experimental Theatre.

**409/809. Advanced Projects in Technical Theatre** (409: 1-3 cr per sem, max 9; 809: 1-3 cr per sem, max 12) Prereq: THEA 410/810, 412/812, 418/818 or equivalent and permission. Projects in scene design, costume design, lighting design, sound design, or technical direction. Planning and execution of designs for actual production.

**410/810. Stage Lighting I** (3 cr) Lec 2, lab 3. Prereq: 12 hrs theatre arts, including THEA 201 and 202. Theory and practice of stage lighting. Instruments and control systems employed in lighting the stage. Color in light, its effect upon costume, makeup, and settings. Planning of light plots.

**411/811. Stage Lighting II** (3 cr) Lec 2, lab 3. Prereq: THEA 410/810 or equivalent. Intensive work in designing lighting for theatre, dance, musicals, and opera.

**412/812. Scene Design I** (3 cr) Lec 2, lab 3. Prereq: 12 hrs theatre arts including THEA 201 and 202. Theory and practice of scene design. Application of the principles of design to stage settings. Development of the scene design for a play through sketches, color plates, models, and drawings.

**413/813. Scene Design II** (3 cr) Lec 2, lab 3. Prereq: 12 hrs theatre arts, including THEA 201 and 202, and 412/812. Theory and practice of scene design. Rendering techniques, period research, and multi-set productions.

**414/814. Stage Lighting III** (3 cr) Lec, lab. Prereq: THEA 411/811 or equivalent. Advanced lighting design through the rendering of light story boards.

**415/815. Production Design for Film and Television** (3 cr) Lec 3. Prereq: THEA 413/813 or 489/889. Theory and practice of production design for the camera. Research, design techniques, tools, and aspects specific to film and television.

**416/816. Computer Aided Design (CAD) for the Theatre** (3 cr) Prereq: 12 hrs theatre arts, including THEA 201, and permission. Computer Aided Design (CAD) as it applies to scenic, costume, and lighting design. Emphasis on two-dimensional drafting, three-dimensional modeling, and computer graphics.

**418/818. Costume Design I** (3 cr) Lec 2, lab 3. Prereq: 12 hrs theatre arts, including THEA 201 and 202. Theory and practice of stage costume designs. Principles of design as they apply to theatrical costuming. Development of costume designs for the characters in a play through sketches, drawings, and color plates.

**419/819. Costume Design II** (3 cr) Lec 2, lab 3. Prereq: THEA 418/818. In-depth costume design in the areas of design conception and techniques of design communication. Application of principles learned in Costume Design I.

**420/820. Problems in Technical Production** (3 cr) Lec 2, lab 3. Prereq: THEA 201, 410/810, 412/812, or equivalent and permission. In-depth theoretical and practical application of organization, materials, and techniques necessary for the planning, execution, maintenance, and use of stage scenery, and the proper and safe use and maintenance of the stage and shop facilities.

**421/821. Drafting for the Theatre** (3 cr) Advanced techniques and practice in technical drafting as applied to theatrical scenic construction.

**422/822. Theatre Architecture** (3 cr) Practice in planning of a theatre facility, including program writing, working with consultants and architects, equipment specification, space allocation, codes and regulations.

**423. Rendering for the Theatre** (3 cr) Prereq: 12 hrs theatre arts, including THEA 201 or permission. Techniques and practice of rendering for scene and costume design.

**424/824. Directing and/or Dramaturgy and/or Stage Management Seminar I** (3 cr) Prereq: THEA 202, 300, and 338. Modern dramatic literature, directing dramaturgy, and stage management theory and practice. Stanislavski to Peter Brook.

**425/825. Directing and/or Dramaturgy and/or Stage Management Seminar II** (3 cr) Prereq: THEA 202, 300, and 338. Modern dramatic literature, directing dramaturgy, and stage management theory and practice. New voices.

**426/826. Lighting for Film** (3 cr) Prereq: THEA 411/811 or 489/889, or permission. Advanced application of film lighting concepts and techniques.

**[IS] 427/827. The American Theatre I** (3 cr) Prereq: 12 hrs theatre arts, including THEA 112G, 335, and 336 or equivalent. History and development of the professional American theatre from the beginning to 1900. Includes selected American plays which best characterize the period under consideration.

**[IS] 428/828. The American Theatre II** (3 cr) Prereq: 12 hrs theatre arts, including THEA 112G, 335, and 336 or equivalent. History and development of the professional American theatre from 1900 to the present day. Includes selected American plays which best characterize the period.

**431/831. Advanced Playwriting** (3 cr per sem, max 9) Prereq: 12 hrs theatre arts, including THEA 112G or 115, 131 or equivalent, and permission. Practice leading to the composition of a three-act play or equivalent long play.

**432/832. Scene Painting** (3 cr) Prereq: 12 hrs theatre arts including THEA 201, or permission. Techniques and practice of scene painting for theatre, film, and television. Texture simulation, faux finishes, and realistic drop painting.

**434/834. Business of Theatre Design** (3 cr) Lec, lab. Prereq: Junior standing. Life as a professional theatre design. Contracts, taxes, record keeping, resumes, portfolios, interviewing, job hunting and legal considerations.

**438. Seminar in Film Production and/or New Media** (3 cr) Lec 3. Prereq: Senior standing. Analysis of advanced projects in screenwriting, film production, digital animation, and new media.

**[ES][IS] 440/840. Continental Drama** (3 cr) Prereq: Junior standing or permission. Most frequently produced plays 1652-1989 on European stages (excluding England). Structural aspects and reasons for the play's popularity among performers and audiences.

**450/850. Sound Design I** (3 cr) Prereq: THEA 201 or permission. Theory and practice of sound design for live theatre. Extensive work with recording, mixing, effects, and playback devices.

**451/851. Sound Design II** (3 cr) Prereq: THEA 450/850 or permission. Advanced work with recording, editing, and playback devices. Training in digital editing using the ProTools LE platform. Planning and execution of full-length, realized, sound designs for departmental mainstage productions.

**454/854. Sound for Film** (3 cr) Lec, lab. Prereq: THEA 489/889 or 451/851. Advanced application of studio and field recording techniques and Digital Audio Workstation (DAW) editing.

**455/855. Musical Theatre Techniques** (MUOP 455/855) (3 cr) Advanced training in the integration of acting, movement, and singing skills for the performance of musical theatre. Training in artistic decision making that generates a character within a musical. Focus on a discipline of preparation and the resulting practice of performance; practical experiences with solos, duets, and ensembles from American Musical Theatre Repertoire.

**457/857. Stage Rigging I** (3 cr) Prereq: THEA 201 or permission. Theory and practice of rigging for live theatre. Extensive work with fly systems, rope systems, and standard rigging hardware.

**[ES][IS] 472. Theatre Perspectives** (3 cr) Lec. Prereq: Senior standing; THEA 201, 202, 234, 335, and 336. *A capstone course.* Advanced study of theatre arts and crafts.

**479. Capstone Project in Film or New Media** (3 cr per sem, max 6 I, II) Lec 3. Prereq: Senior standing and THEA 489/889. Supervised planning and production of thesis projects in film or new media.

**[ES][IS] 480/880. Technological Innovations in Film Production** (3 cr) Prereq: Senior standing and 3.0 GPA. History of technological innovation in film. Sound, film format, color systems, lenses and lighting that have enhanced the finished product in the film industry.

**[ES] 481/881. Screenwriting: The Short Script** (3 cr) Prereq: BRDC 370 or ENGL 252 or 254 or 259 or THEA 331 or permission.

Character development, story structure, and problem solving. Writing for the short film.

**482/882. Film Production I** (3 cr) Prereq: BRDC 269; THEA 114, 201 and 202; BRDC 474/874 or ENGL 252 or 254 or 259 or THEA 131 or permission. *Students must have access to a camcorder.*

“Film grammar” and non-sync film production.

**484/884. Advanced Projects in Film Production and/or New Media** (3 cr) Ind. Prereq: THEA 489/889.

Projects in screenwriting, film production, digital animation, and new media.

**485/885. Post Production for Film and New Media** (3 cr) Lec, quiz. Prereq: THEA 489/889.

Advanced studio software and techniques.

**486/886. Film: Producing and Directing** (3 cr) Lec, lab. Prereq: THEA 481/881.

The skills required to successfully produce and direct a film. Analyze and direct scenes from films, produce and direct a final project, and create a production notebook.

**487/887. Digital Design and Animation** (3 cr) Prereq: THEA 410/810 and 412/812; BRDC 269 or 428/828 or GRPH 221 or THEA 416/816 or permission.

Advanced digital production design and animation for film and new media.

**488/888. New Media Production I: Web Site Design** (3 cr) Lec, lab. Prereq: THEA 416/816 and 423, or permission.

The integration of video, sound, computer graphics and animation for the World Wide Web and other digital interactive media.

**489/889. Film Production II** (3 cr) Prereq: THEA 481/881, 482/882, and permission. *All projects are produced in film or digital video.*

Advanced film production techniques including sync-sound, lighting, lab post-production and film business. Small group production of *Cinema Verite's* Experimental and Narrative short films.

**491/891. Advanced Projects in Directing, Theatre Management and/or Stage Management** (1-3 cr, max 9) Ind. Prereq: THEA 202, 300, and 301.

Selected projects in directing, theatre management, or stage management in University Theatre or Theatrix.

**494/894. Internship in Theatre or Film** (3 cr, max 6) Fld. Prereq: Permission.

Structured internships with professional organizations or individuals outside the University of Nebraska-Lincoln campus or with Nebraska Educational Telecommunications.

**496. Capstone Project in Film or New Media** (3 cr, max 6) Ind. Prereq: Senior standing and THEA 489/889. *Pass/No Pass only.* Supervised planning and production of thesis projects in film or new media.

**499H. Honors Course** (1-3 cr, max 6 I, II) Prereq: Open to seniors who are candidates for degrees with distinction, with high distinction, and with highest distinction in the Hixson-Lied College of Fine and Performing Arts; good standing in the University Honors Program or by invitation.

**860. Script Analysis** (3 cr) Prereq: Permission.

**863. Director/Designer Communication** (3 cr) Prereq: Undergraduate major in theatre.

**864. Detailed Scene Work I** (3 cr) Prereq: 12 hrs theatre arts.

**865. Detailed Scene Work II** (3 cr) Prereq: 12 hrs theatre arts.

**870. Introduction to Pedagogy** (2 cr per sem, min 3)

**898. Special Topics in Theatre Arts** (1-24 cr) Prereq: Permission.

**899. Masters Thesis** (6-10 cr)

Refer to the Graduate Bulletin for 900-level courses.

## University Studies Program

**Director and Chief Adviser: Amy M. Goodburn**, 1223 Oldfather Hall

**Faculty:** Brooke (English), Forsythe (political science), Haller (English), Lindsley-Griffith (geosciences), Neal (art and art history), Wishart (anthropology and geography), Woodward (mathematics)

The University Studies Program permits students whose career or educational goals cannot be achieved through listed majors to develop individual degree programs (BA) in the Hixson-Lied College of Fine and Performing Arts. Programs will be made up primarily of courses selected from those regularly offered by the Hixson-Lied College of Fine and Performing Arts and by other colleges at UNL, but may also contain independent projects, internships, credit for experiences, or credit for educational programs not otherwise transferable to the University of Nebraska. Programs will follow the spirit of liberal education, even when they do not fulfill the specific liberal education requirements.

Students should consult the Director or a member of the University Studies faculty before making application. The application takes the form of a letter to the University Studies faculty presenting an appropriate educational and personal history, a justification of the focus of the proposed program, and a tentative listing of courses. Admission will be approved for applicants who present evidence of strong motivation and a capacity to pursue independent work, and who offer a rigorous and balanced program suited to carefully defined aims.

For further information, see Professor Goodburn, 1223 Oldfather Hall.

## Courses of Instruction (USTD)

**295. University Studies** (1-24 cr) Prereq: Permission.

**395. University Studies** (1-24 cr) Prereq: Permission.

**495. University Studies** (1-24 cr) Prereq: Permission.



# College of Journalism and Mass Communications

## About the College

Will Norton, Jr., Ph.D., Dean and Professor of News-Editorial, 472-3041

Linda Shipley, Ph.D., Associate Dean and Professor of Advertising, 472-3041

## Mission/Objectives/Goals

Journalism has been a part of the University of Nebraska–Lincoln curriculum since 1894. A School of Journalism was established as a unit within the College of Arts and Sciences on May 22, 1923. Until the mid-1940s, the School of Journalism offered courses designed exclusively to prepare graduates for employment by newspapers. Advertising courses were added soon thereafter, and broadcasting courses became available in the early 1960s.

The school became a free-standing unit in 1979 and was named a college in 1985. The name was changed to the College of Journalism and Mass Communications in 1993. In the fall of 2001, the college moved to a newly renovated facility. Harold and Marian Andersen Hall allows teaching innovations resulting in improved education for students.

The primary mission of the College of Journalism and Mass Communications is to graduate highly competitive young professionals who have acquired communication and critical thinking skills appropriate to the practice of journalism and strategic communications: writing, editing, oral presentation and design in print, broadcast and interactive media. Because a viable career in the

media professions requires graduates to understand the changes in society that make differences in people's lives, journalism and mass communications education includes a fusion with the liberal arts and sciences at UNL.

The college's mission dictates a high priority role for excellent undergraduate teaching in the three sequences: advertising, broadcasting and news-editorial. An MA in journalism and mass communications complements this emphasis by building on a well-established and nationally recognized undergraduate curriculum.

## Administrative Structure

The college includes two sequences—advertising and journalism—in which students may major in advertising, broadcasting, or news-editorial.

## Undergraduate Majors

### Advertising

The advertising major prepares students for careers in a wide variety of communication-related areas. Recent graduates have been placed in more than 20 states and several other countries in diverse advertising careers such as retail and corporate advertising and marketing, media sales, brand management, media planning, account management, research, public relations, media relations, special event planning, Internet communications, copywriting and layout and design.

The advertising faculty believes that a successful career must be built upon a solid foundation, an education that combines theory and practice. To achieve that end, the major offers courses in copywriting, layout, media planning, graphics, campaign development, research, management, and strategic communications. The curriculum is designed to emphasize strategy, planning and implementation in creative problem solving.

Much emphasis is placed on individual relationships between faculty and students, an interaction vital to a student's creative development. A faculty adviser also helps each student tailor an academic plan to meet his or her interests and needs.

In advertising and strategic communications classes, students often work with actual clients who present real-life problems. This experience gives students a professional perspective on problem-solving in many sectors including nonprofit, retail, small business and community organizations as well as large corporations. Students are encouraged to augment their academic experience with internships.

The faculty, with many professional contacts both locally and nationwide, actively help place students in jobs within the state and throughout the country. Students interested in majoring in advertising should contact the college office in 147 Andersen Hall.

### Broadcasting

The broadcasting major offers courses leading to a wide variety of careers in the telecommunications industry. Building on a solid base of instruction in radio, television, and online journalism,

the major has broadened its curriculum in response to advancing technology and new electronic media. Broadcasting offers courses in news gathering and dissemination, sports reporting, videography, sales, management, programming and other specializations including the use of audio and video on the Internet and the World Wide Web. Courses are designed to develop both a comprehensive understanding of theoretical principles and professional skills. Most courses involve extensive practical laboratory work in addition to classroom lectures and discussions.

KRNU, a professionally managed FM radio station, is an integral part of the instructional program. With studios in Andersen Hall, KRNU operates year-round and serves an audience of potentially 250,000 persons in the Lincoln area, plus a global audience via the Internet. Student-produced programs aired on KRNU have won many awards in competition with other student groups as well as with commercial stations. Broadcasting students received a Bronze Oscar in the student documentary category for their 2003 production of "Cuba: An Illogical Temple."

Students have also had success in the national Hearst competition, including the broadcast news national winner in 2006 and several students placing in the top five.

In addition, students may work and take classes in the studios of the Nebraska Educational Television Network, one of the premier ETV facilities in the nation.

Students also produce television newscasts and entertainment programs, which are distributed throughout Lincoln via cable television. The broadcasting program operates two television studios in Andersen Hall.

The broadcasting faculty enjoys an excellent rapport with the industry, and its members are actively involved in professional media organizations, frequently serving in leadership positions. Students are encouraged to further their professional goals through participation in student organizations such as the National Broadcasting Society, Alpha Epsilon Rho, the Society of Professional Journalists, the Radio-Television News Directors Association and other broadcasting entities.

Broadcasting faculty assist students in acquiring internships and professional work experience prior to graduation. Last year more than 100 media-related internships and professional part-time jobs were held by broadcasting majors. Graduates are working for media organizations throughout the nation, often in positions of middle and upper management. Students wishing to major in broadcasting should contact the college office in 147 Andersen Hall.

### News-Editorial

The news-editorial major offers courses in print journalism, the discipline on which the college was established. All faculty members have extensive professional experience, which is coupled with their commitment to teach students the skills needed to succeed.

The news-editorial faculty takes pride in the fact that nearly all recent graduates who have wanted jobs on newspapers have found them. While most news-editorial students take jobs at newspapers, graduates also go to work for

magazines and other print media, including online publications.

Faculty prepare their students for the job market by combining class work with actual experience. Students in photography, editing, reporting and graphics join in putting out a laboratory newspaper. As a summer school experience, advanced reporting students travel to a selected town to help write and edit editions of a weekly paper. News-editorial students work with advertising and broadcasting majors to produce *NewsNetNebraska*, an online publication.

Such practical experience prepares students for summer internships on newspapers and other publications. Most news-editorial students have at least one such work experience before they graduate. In one typical summer, three students were working on copy desks at papers like the *Milwaukee Journal-Sentinel* and the *Arizona Republic* in Tucson, many were working on Nebraska newspapers, some were working in public relations offices of major firms and others were on newspapers across the country from *The New York Times* to the *Portland Oregonian*. Advanced students, such as those in depth reporting and creative editing, display their work in special college publications. In terms of national recognition, news-editorial students regularly finish among the top 10 in the national Hearst writing competition, and many students take top honors in the Society of Professional Journalists' competition. News-editorial depth-reporting students were nominated for Pulitzer Prizes for their 2003 88-page Cuba magazine and their 2005 magazine about Truman Capote's "In Cold Blood."

Students interested in a news-editorial major should contact the college office in 147 Andersen Hall.

### The Graduate Program

A graduate program leading to the master of arts degree was established in 1975. The graduate program is designed to prepare the student to translate more effectively to mass audiences the complexities of a rapidly changing society. Emphasis may be placed on advertising, broadcasting or news-editorial. Students entering the program must have the equivalent of an undergraduate major in an accredited program in journalism and mass communications or extensive professional experience. Students can also earn a masters degree in journalism in an interdisciplinary program that includes advertising, marketing and communication studies. Persons seeking more information about graduate study in the College of Journalism and Mass Communications should consult the graduate bulletin or call or write the Gilbert M. and Martha H. Hitchcock Center for Graduate Study and Professional Journalism, 127 Andersen Hall, (402) 472-3042, or visit the college's Web site.

### Hitchcock Center for Graduate Study and Professional Journalism Development

The Hitchcock Center, with a \$250,000 endowment from the Gilbert M. and Martha H. Hitchcock Foundation, helps finance the graduate

program in the College of Journalism and Mass Communications and further develops the skills of Nebraska's professional journalists. It accomplishes the latter goal by giving direct support to the state's professional journalists through research projects and statewide workshops aimed at improving skills in newswriting, advertising and broadcasting. The center also funds a \$5,000 graduate fellowship and a distinguished faculty chair. Gilbert M. Hitchcock was a United States senator from Nebraska and founder of the *Omaha World-Herald*.

### Faculty

Quality undergraduate teaching is a source of pride in the College of Journalism and Mass Communications. Most classes are small, and faculty members are known for the individual attention they give to their students. Faculty have a wealth of experience in the communications professions: as advertising and public relations managers, writers and designers for advertising and public relations agencies, newspapers and broadcasting outlets; as writers, producers and on-air talent for radio and television; and as reporters, editors and photographers at newspapers and magazines.

### Scholarships

Each year the college awards more than 100 scholarships worth more than \$178,000. Most scholarships go to upperclassmen, although a limited number are awarded to freshmen.

College scholarship information is available online at the college's Web site, [www.unl.edu/journalism/students/undergrad/scholarships.shtml](http://www.unl.edu/journalism/students/undergrad/scholarships.shtml). The forms must be completed and returned to the dean's office by March 1. Awards are made in April.

Entering freshmen must apply through the university's Admissions Office in the Van Brunt Visitor Center, 313 N. 13th Street. Additional applications and letters of explanation may be sent to the college at the following address:

College of Journalism and Mass Communications  
University of Nebraska-Lincoln  
Scholarship Committee  
147 Andersen Hall  
PO Box 880443  
Lincoln, NE 68588-0443

### Academic Advising

Upon enrollment in the college, each student is assigned to a faculty adviser. The student is expected to consult with his or her adviser each semester before registering for the next semester's courses.

Although the faculty advisers seek to assist students in the selection of courses leading toward graduation, the final decision regarding which courses are taken is ultimately the student's. Therefore, students are responsible for identifying and enrolling in those courses that will lead to completion of all published degree requirements.

In addition, each student should see the college's advising coordinator, 105 Andersen Hall, at least once each year to make sure all college and university requirements are completed.

## Degree Requirement Check

It is no longer necessary to request a "senior check." Graduation Services, 109 Canfield Administration Building, automatically mails a letter and degree audit to each senior to identify any unfulfilled requirements in the student's academic program.

With each term's registration, students should determine how course selections apply to requirements by obtaining a degree audit, available on the WAM Web page, <http://www.unl.edu/wam>.

Students should print their degree audits and take them to the meetings with their advisers. Because the Web-based Degree Audit system loads overnight, one can examine a new audit no sooner than one day after registering for classes.

## Honors and Awards

Outstanding students are honored each spring during an honors convocation. The college recognizes students whose cumulative grade point averages place them in the top 10 percent of their respective classes, students who hold scholarships and students who have earned special awards.

In addition, the college distributes a semester dean's list. To be included on the semester dean's list, a student must have earned at least a 3.7 semester GPA on 12 or more graded hours.

**Kappa Tau Alpha.** The Will Owen Jones Chapter of Kappa Tau Alpha, the national journalism honorary, recognizes outstanding undergraduate and graduate students. Membership is limited to those in the top 10 percent of the junior and senior classes in the College of Journalism and Mass Communications who have completed the junior level professional courses. Each year the society honors a student achieving the highest four-year grade point average in the college and presents an award to the Distinguished Journalist of the Year.

**Alpha Delta Sigma.** As the only national honorary society for advertising students, ADS recognizes outstanding academic achievement. Since ADS was initiated in 1976, students nominated by their faculty advisers have been elected by division leaders into this exclusive scholastic group. An ADS chapter was founded at UNL in 1993. To be eligible for nomination, students must be enrolled in the local American Advertising Federation chapter (Ad Club).

**Alpha Epsilon Rho.** Alpha Epsilon Rho recognizes superior scholarship in the field of broadcasting. The University of Nebraska chapter was chartered in 1946. Membership is by invitation upon completion of 9 hours in broadcasting with a cumulative grade of 3.25 in broadcasting and 3.0 cumulative or above. For more information, contact the college office in 147 Andersen Hall.

## Degrees With Distinction

In recognition of academic excellence, the college recommends the bachelors degree with distinction, with high distinction and with highest distinction. To be recommended, candidates must

fulfill the specific criteria as described below, in addition to meeting all the general criteria and procedures applicable to all distinction classifications. The thesis and results of the examination over the thesis in each instance must be acceptable to the advisory committee.

**Highest Distinction.** Candidates for the bachelors degree may be recommended for degrees with highest distinction on the basis of the following criteria: scholastic standing within the top five percent of the graduating class of the college in the preceding 12-month period and the advisory committee's recommendation based upon a thesis or comparable creative effort and an oral examination over that thesis or creative effort.

**High Distinction.** Candidates for the bachelors degree may be recommended for degrees with high distinction by fulfilling one of two sets of criteria: 1) by achieving scholastic standing within the top five percent of the graduating class of the college in the preceding 12-month period; or 2) by achieving scholastic standing within the top 10 percent of the graduating class of the college in the preceding 12-month period and by recommendation of the advisory committee based on a thesis or comparable creative effort and an oral examination over that thesis or creative effort.

**Distinction.** Candidates for the bachelors degree may be recommended for degrees with distinction by achieving one of two sets of criteria: 1) by achieving scholastic standing within the top 10 percent of the graduating class of the college in the preceding 12-month period; or 2) by achieving scholastic standing within the top 15 percent of the graduating class (never below a 3.7 GPA) of the college for the preceding 12-month period and by recommendation of the college's advisory committee based upon a thesis or comparable creative effort and an oral examination over that thesis or creative effort.

The following criteria apply to all categories: Ordinarily, only students who have taken their last 48 hours of course work in residence will be considered for degrees with distinction. In considering individual cases, the advisory committee will review both grades and the program of courses. Students who choose one of the thesis options described above should make arrangements before their senior year by consulting with their academic advisers. These students must register for ADVT/BRDC/NEWS 499H for one hour of credit in the semester they plan to complete the thesis proposal and register for an additional two hours of credit in the semester they plan to complete the thesis. At least two members of the student's honors thesis committee must make a recommendation to the advisory committee on the thesis work.

During the semester before the student intends to graduate, she or he should visit the dean's office in Andersen Hall, to obtain the schedule of deadline dates for submission of reports of examining committees. The forms for making the reports are also available in the dean's office.

## Student Organizations

### American Copy Editors Society

The college sponsors a student chapter of the American Copy Editors Society or ACES. Students regularly attend regional and national meetings of the association, which was founded in 1997 as a professional journalism organization for, by and about copy editors.

### The National Broadcasting Society/Alpha Epsilon Rho

The NBS/AERho is a student organization of broadcasting majors. Membership is open to all students with an interest in communications. There are no course or GPA requirements for membership in the NBS. However, officers in the society must demonstrate a continuing and significant commitment to the goals of the organization, such as completion of at least 6 hours of academic course work in broadcasting.

### Nebraska Press Women

The student chapter of Nebraska Press Women is open to both men and women from any of the college majors. Its primary purposes are to promote and foster First Amendment freedoms and responsibilities and to support students as they explore career possibilities in the mass media.

### Public Relations Club

The NU chapter of the Public Relations Student Society of America (UNL's PR Club) offers students practical career advice, contact with professionals in the PR industry, and project experience in the growing field of public relations. Its regular monthly meetings feature speakers from professional PR ranks. The group also helps students prepare to enter the professional world by sharing internship information and sponsoring resume and interview workshops.

### Student Advertising Club

The Ad Club is a student chapter of the American Advertising Federation. Formerly known as AAF/ADS College Chapters, the organization dates back to the Alpha Delta Sigma advertising fraternity founded in 1913.

The Student Advertising Club is open to all students interested in a career in advertising. The club sponsors guest speakers of prominence who offer professional perspectives and insights. It also helps students prepare to enter the professional world by sponsoring resume, portfolio and interview workshops.

### Student Advisory Board

The Student Advisory Board advocates educational quality in the college; establishes and maintains open channels of communication with students in order to gain student opinions and concerns; informs students about college issues; ensures that the interests of students and their organizations are adequately represented in the decision-making process concerning the programs and policies of the college; provides increasing opportunities for formal and informal contact for all students with the college faculty and

professional community and assists the dean with special projects, including student-alumni relations. The board consists of 12 members, four from each sequence, and a graduate student when possible. A student wishing to serve on the Student Advisory Board should contact the dean's office in Andersen Hall.

## Admission to the College

The entrance requirements for the College of Journalism and Mass Communications, beginning with the fall semester of 1997, are the same as the admission requirements for the University of Nebraska–Lincoln.

These include:

- English (4 units)
- Mathematics (4 units)
- Social studies (3 units)
- Natural sciences (3 units), and
- Foreign language (2 units).

One unit equals one year of high school credit. Students with one deficiency, two deficiencies but not in the same category, or two deficiencies in foreign language who receive a Deferred Admission or Admission by Review, may be considered for admission to the college. Students who are admitted through the Admission by Review process with core course deficiencies will have certain conditions attached to their enrollment at UNL. These conditions are explained under "Admission to the University," "Removal of Deficiencies," on page 6 of this bulletin. High school deficiencies must be removed during the first 30 credit hours of enrollment at UNL (60 hours for foreign language) or the first calendar year, whichever takes longer.

For University policy, see "Graduation Requirements" on page 16.

Students are encouraged to enroll in natural science courses (with lab) and foreign language courses during their freshman year. **The college's policy regarding acceptance of credit for courses taken to remove admission deficiencies is that those credit hours will count toward elective credit but will not count toward the college's ACE or distribution requirements.**

A student with 12 or more hours of college credit must have at least a 2.0 GPA to be admitted or readmitted to the College of Journalism and Mass Communications.

College of Journalism and Mass Communications courses will be restricted to College of Journalism and Mass Communications majors except where stipulated differently. Students from colleges and departments with a written agreement with the College of Journalism and Mass Communications will be exempt from this policy. Permission may be granted by the dean of the College of Journalism and Mass Communications in special circumstances following the directives provided by the faculty in these matters.

## Credit by Examination

Through study or experience that parallels a University of Nebraska–Lincoln course, a regularly

enrolled university student may feel prepared to pass an examination on the course content for course credit. To apply for credit, a student should:

1. Pick up a credit-by-examination form at the Information Window, Office of Registration and Records, 107 Canfield Administration Building;
2. Secure the approval signature of the dean of the college;
3. Have the Credentials Office verify that he or she is currently enrolled;
4. Secure the Bursar's Receipt for Payment of the examination fee; and
5. Present the completed form to the instructor designated by the dean's office.

The instructor will then give the examination and report the results to the Office of Registration and Records through the dean of the college. A student is not permitted to receive credit by examination in a course that is a prerequisite for one in which he or she already has received credit.

The College of Journalism and Mass Communications also gives credit for the subject and general examinations of the College Level Examination Program (CLEP) administered by the College Entrance Examination Board. Inquire in 107 Canfield Administration Building for the current policy regarding CLEP examinations.

## Transfer Credit

The goal of the following policy is to ensure that students from other campuses meet the same standards required of students who take all their courses at the University of Nebraska–Lincoln's College of Journalism and Mass Communications.

The college will accept no more than 15 semester hours of grades less than a C from any program outside the University of Nebraska system. No grades less than a C will count toward a major, a minor, or concentration.

The college will accept up to 6 hours in journalism and mass communications courses taken at institutions that do not have an accredited journalism and mass communications program. Students must take the remainder of the required hours in journalism courses on campus at the University of Nebraska–Lincoln. In advertising, these courses must include 460 and 489 and in broadcasting, 370 and 372 or 360 and 362. In news-editorial, the courses must include 302 and one selected from the following: NEWS 303, 404, or a 400-level writing course. Students from ACE-JMC-accredited programs may request equivalency reviews of the required courses at those schools. Degree candidates must accumulate 80 credit hours of non-journalism classes, 65 of those in disciplines listed as liberal arts.

Credit for courses taken at foreign universities and colleges will be transferred only after evaluation by the appropriate professor in the major. This evaluation may include examination of the student over subject matter studied at the foreign institution.

Normally, credit is not given for pre-university work. In some instances, it may be possible to receive credit through satisfactory examination.

## Readmission

A student who left the University not in good standing (below a 2.0 grade point average), may be readmitted in the Division of General Studies. Such a student would be eligible to reenter the College of Journalism and Mass Communications upon attaining a 2.0 cumulative GPA.

Students who left the university in good standing may be readmitted in the College of Journalism and Mass Communications, and they may choose the bulletin under which they wish to graduate according to the following guidelines:

1. Students must fulfill the requirements stated in the *Undergraduate Bulletin* for the year they enter the College of Journalism and Mass Communications or in any subsequent bulletin published while they are enrolled in the college.
2. A student must, however, meet the requirements from one bulletin only rather than choosing a portion from one bulletin and the remainder from another.
3. No returning student may use a bulletin that is 10 years old or older. In addition, any student seeking graduation credit for a College of Journalism and Mass Communications course taken more than 10 years prior to graduation must demonstrate mastery of the material currently included in that course at the proficiency level satisfactory to the college's advisory committee and one or more faculty members qualified to teach the course in question. Students unable to demonstrate satisfactory mastery of the course material will be required to repeat the original course or a corresponding contemporary course designated by the college's advisory committee, if the original course is no longer offered.

## College Academic Policies

### Pass/No Pass Privilege

All courses in the College of Journalism and Mass Communications must be taken for grade only. No journalism course may be taken Pass/No Pass. This applies to both majors and non-majors.

The Pass/No Pass (P/N) option is designed to be used by students seeking to expand their intellectual horizons by taking courses in areas where they may have minimum preparation without adversely affecting a student's grade point average.

1. Neither a P (pass) nor an N (no pass) contributes to a student's GPA.
2. P (pass) is interpreted to mean a grade of C or better. A student who earns a C- or lower will receive a grade of N.
3. After eight weeks, a student registered for P/N cannot change to a grade registration unless the P/N registration is in conflict with a professor, department, college, or university policy governing P/N.
4. P/N is not available to students on academic probation unless the course is offered only that way.

5. For undergraduates, the 24-hour college limit shall apply. This limit does not include courses offered on a Pass/No Pass only basis or AP credit. This limit does apply to transfer courses from UNO, UNK, UNMC, and other institutions. It also applies to ES/IS courses.
6. P/N hours can count toward fulfillment of group requirements, including concentrations, up to the 24 credit hour maximum. No journalism major may take a journalism course Pass/No Pass.
7. Students may change to Pass/No Pass until the eighth week (one-half course completion) if the P/N registration is not in conflict with a professor, department, college or university policy governing the P/N option. Changing from graded to P/N or from P/N to graded can be completed on WAM! or by filing a drop/add form with the Office of Registration and Records, 107 Canfield Administration Building, and needs no instructor's approval.

## Grading System

The university uses an A through F grading system. The letter grades with point value (in parentheses) are: A+ (4.0), A (4.0), A- (3.67), B+ (3.33), B (3.0), B- (2.67), C+ (2.33), C (2.0), C- (1.67), D+ (1.33), D (1.0), D- (0.67), and F (0). Grades of W (dropped/withdrew), I (incomplete), P (pass/C or better), and N (no pass) may also be given. W, I, P, and N are not assigned grade points and, therefore, are not used in computation of a student's grade point average. For complete details of the grading system, refer to the current issue of the Schedule of Classes.

## Class Standing

**Sophomore Standing.** For admission to sophomore standing a student must have completed a minimum of 27 semester hours of credit and attained a total grade point average of at least C.

**Junior Standing.** A student has junior standing after meeting the requirements for sophomore standing and completing 53 semester hours of credit.

**Senior Standing.** A student has senior standing after meeting the requirements for junior standing and completing 89 semester hours of credit.

## Grade Appeals

The following is a synopsis of the College of Journalism and Mass Communications grade appeals policy. The policy is designed to provide students with protection through orderly procedures against prejudiced or capricious academic evaluation. A student with a concern about a grade should take the following steps:

1. Talk with the instructor involved. Many problems are resolved at this level.
2. Talk with an assistant or associate dean in 147 Andersen Hall.

3. If the foregoing steps have not resulted in a solution, arrange to take the problem to the sequence grading appeals committee. This step involves presenting the problem in writing.
4. If an appeal from the sequence committee is necessary, arrange to take the appeal to the College Grading Appeals Committee.

**NOTE:** The detailed policy is available in the dean's office.

- orientation courses, such as UNL's ALEC 397E and 397K (neither course is applicable to the courses numbered above 299 requirement); ASCI 107; BIOC 101; BIOS 150, 160; EDPS 150; FDST 107; HRFS 183; NRES 101, NUTR 150; PSYC 100, 150; TEAC 210; VBMS 101
- math courses below 100 and MATH 100A
- CSCE 137, word processing and graphics
- EDPS 327 (except EDPS 189H, 250, 251, 362, 457, and 459)
- BSAD 150, MNGT 198D

## Course Restrictions

Credit toward the degree may be earned in only one course, including honors sections, from each group of courses listed below:

- BIOS 312 or AGRO 360
- BIOS 313 or 314
- CHEM 105, 109, 111, 113, 195
- CHEM 116 or 221
- CHEM 251 and more than 1 cr of CHEM 263
- CHEM 471 or 481
- CSCE 252D or CSCE 150E
- CSCE 252D or ENGM 112
- CSCE 252D or ELEC 121
- CSCE 340 or 480
- ECON 210, or 211 and 212
- ECON 215, CRIM 300, EDPS 459 or STAT 218 (was STAT 180)
- FREN 201 and 202, or FREN 210
- GEOG 150 and/or 152 or 155
- GEOL 100 or 101 or 101H
- GEOL 103 or 105
- GERM 201 and 202, or GERM 210
- LATN 102 or 201
- MATH 101 and/or 102 or 103
- MATH 104 or 106
- MATH 200 or 300
- MATH 201 or 301
- MATH 340 or ENGM 480
- PHYS 141 or 151
- PHYS 151 or MSYM 109
- SOCI 205 or CRIM 251
- SOCI 209 or CRIM 355
- SOCI 311 or CRIM 337
- SOCI 474 or CRIM 413
- SPAN 201 and 202, or SPAN 210

A maximum of 12 hours of military science (MLSC), naval science (NAVS), and aerospace studies (AERO) may be counted toward the degree.

A maximum of 4 hours of practice courses in **varsity sports and recreational activity courses (ATHP, COMB, FITN, INDV, ODED and RACS) or Basic Military Science**, which is credit for active military duty, not ROTC course work.

A maximum of 15 hours of applied study, defined as courses including "performance, practice or skills" in their titles or course descriptions. This limitation on fine arts, communication studies and other areas outside the College of Journalism and Mass Communications does not apply to

students completing **designated majors or minors** in those areas. This means that a student who has declared a designated major or minor in any of these areas has no performance limit applied to the degree audit.

## Residency Requirement

At least 30 of the last 36 hours of credit needed for the degree must be registered for and completed while the student is enrolled in the University of Nebraska-Lincoln. This means the last year of the student's work must be spent in residence. Open enrollment and summer reading courses do not count toward residence. A maximum of 30 hours of open enrollment and summer reading courses at UNL may be applied toward a degree from the College of Journalism and Mass Communications.

## Graduate Courses

Seniors in the University who have obtained in advance the approval of the dean for Graduate Studies may receive up to 12 hours credit for graduate courses taken in addition to the courses necessary to complete their undergraduate work, provided that such credits are earned within the calendar year prior to receipt of the baccalaureate. For procedures, inquire at the Office of Graduate Studies.

Course work taken prior to receipt of the baccalaureate may not always be accepted for transfer to other institutions as graduate work.

## Application for Degree

Each student who expects to receive a diploma must file an application for candidacy for the diploma and pay a \$25 fee to Graduation Services, 109 Canfield Administration Building. Announcements about deadline dates are published and posted on bulletin boards around campus.

Students are responsible for informing Graduation Services of their graduation plans, including their addresses, the manner in which they are completing their requirements, such as by correspondence, by clearance of incompletes, by enrollment at another institution, by taking special examinations, etc., and of any later revision of such plans. Failure to follow this procedure may cause postponement of graduation until a later semester.

The first semester during which the transcript indicates a student is a journalism major establishes the semester in which he or she is considered to have entered the college.

## Waivers/Substitutions

The college will allow no waivers for graduation requirements. If students think they have met the intent of a particular requirement in some other fashion, they may submit a substitution request form.

The form requires students to justify the request and secure recommendations from their advisers. Students must submit completed requests, with appropriate recommendations, to the dean's office no later than two working days prior to the next regularly scheduled meeting of

the College Executive Committee. Decisions to grant or deny requests will be made by that committee or a designated subcommittee; appeals will go to the full faculty.

Students must remember that it is their responsibility to know and follow the graduation requirements of the college. A substitution request should come only after all other avenues of advising and course work have been exhausted.

The faculty will consider only substitutions. Under no circumstances will requirements be waived. A substitution shall be defined as:

1. The replacement of a required course by a course of very similar content.
2. Credit by examination when offered.
3. The replacement of a required course with significant professional experience. This will be allowed only in rare instances. The experience will substitute only for course content, not for credit hours. Additional credit hours may be needed to maintain minimum credit hour requirements for graduation.

## Degree Programs and Areas of Study

Candidates for the bachelor of journalism degree must abide by the Accrediting Council on Education in Journalism and Mass Communication accrediting guidelines which require that 80 semester hours of credit be completed in courses outside the College of Journalism and Mass Communications. Sixty-five (65) of the 80 hours must be taken in subjects listed as traditional liberal arts and sciences by the university. See the degree audit for a list of the areas currently considered liberal arts. Students graduating with 125 hours can take no more than 45 hours in the College of Journalism and Mass Communications. Students needing 130 hours to graduate can take no more than 50 hours in College of Journalism and Mass Communication courses. Students wanting to take more than 45 or 50 hours in the college should note that any hours over the 45 or 50 hour limit will be in addition to the hours required to graduate.

## Intercollege Studies

A student in the College of Journalism and Mass Communications pursuing a bachelor of journalism degree may also complete a second major in the College of Arts and Sciences as part of a four-year program. In addition to ACE and College of Journalism and Mass Communications requirements, students will be expected to meet all College of Arts and Sciences distribution requirements and major requirements. Because students choosing this option will not be earning a degree from Arts and Sciences, they will not be eligible for Arts and Sciences-based scholarships and aid, but they will be eligible for consideration for Phi Beta Kappa.

A student who prefers to receive the second degree would file for dual matriculation. Such a student would complete an additional 30 hours as part of earning the second degree.

JGEN courses, which are open to students from any college, do not count in any College of

Journalism and Mass Communications major. Non-College of Journalism and Mass Communications students must have permission to enroll in any ADVT, BRDC, JOUR or NEWS courses. Permission generally is reserved for students whose colleges have agreements with the College of Journalism and Mass Communications.

## Cross-listed Course Policy

The College of Journalism and Mass Communications recognizes cross-listed courses as equivalent for the purposes of degree requirements. However, a course taken under one department which is cross-listed cannot be applied in all the majors and minors affected by all the cross-listings of the course until at least 36 hours of course work has been recorded in the concentration requirement.

## Requirements for the Bachelor of Journalism Degree

To graduate with a bachelor of journalism degree, students must complete requirements from the following areas: the University ACE requirements, the College of Journalism and Mass Communications Distribution Requirements, the requirements for a major offered by the college, and the non-major requirements that are specific to the college.

## University ACE Requirements

For a description of requirements for UNL's general education program, Achievement-Centered Education (ACE), which is effective AY 2009-2010, see page 17.

## College Distribution Requirements (19 credits + Foreign Language)

The College distribution requirements (CDR) are designed to further the purposes of liberal education by encouraging study in several different areas. Courses satisfying these requirements may impart specialized knowledge or broadly connect the subject matter to other areas of knowledge.

All requirements are in addition to University ACE requirements. A student may not use a single course to satisfy more than one of the five College distribution requirements. A student cannot use a single course to satisfy both an ACE outcome and a College distribution requirement. Independent study courses and internships cannot be used to satisfy distribution requirements.

The five College Distribution Requirements are as follows:

1. Written Communication: 3 hours  
To be selected from courses approved for ACE outcome 1.
2. Natural, Physical and Mathematical Sciences: 7 hours

From two different departments, including at least one lab science course from the natural or physical sciences. Lab courses may be selected from biochemistry, biological sciences, chemistry, geosciences, physics and astronomy, geography, and anthropology\*. All other courses select from:

biochemistry, biological sciences, chemistry, computer science and engineering, geosciences, mathematics, physics and astronomy, and statistics.

\* see degree audit for approved geography and anthropology lab courses

### 3. Humanities: 6 hours

From two different departments, select from classics\*, English, history, modern languages and literatures\*, philosophy, and religious studies.\*

\*language courses numbered 210 or below apply only for the Foreign Language requirement

### 4. Social Sciences: 3 hours

Select from anthropology, communication studies, geography, political science, psychology, or sociology.

### 5. Languages Classical and Modern: 0-6 hours

Fulfilled by the completion of 6 credit hours at the 200 level or above in a single foreign language in one of the following departments: classics and religious studies, modern languages and literatures, or anthropology. Instruction is currently available in Biblical Hebrew, Chinese, Czech, French, German, Greek, Japanese, Latin, Omaha, Russian, and Spanish. A student who has completed the fourth-year level of one foreign language in high school is exempt from the languages requirement.

#### Options for completion of language requirement:

1. Regular four-semester sequence: 101, 102, 201, and 202 (5, 5, 3, 3 hours for a total of 16)
2. Three-semester sequence: 101, 102, and 210 (5, 5, 6 hours for a total of 16)
3. 101, 102 fall and spring semesters; 201, 202 summer sessions (5, 5, 3, 3 hours for a total of 16). This and the option below constitute the only possibilities to finish the complete requirement in one year.
4. (For Spanish) 101, 102 at UNL; 201, 202 at Monterrey Summer Institute (6 hours). (5, 5, 6 hours for a total of 16.) One six-week summer session (1st summer session). See modern languages non-majors adviser for information and application.
5. Students who have taken 3 years or fewer of a foreign language in high school should contact the modern languages and literatures department for recommended placement.

A student who achieves a specified scaled score in the College Level Examination Program (CLEP) subject exam in French, German and Spanish, levels 1 and 2, may be exempted from the language requirement and may also receive credit for the fourth semester course in the language. Students wishing to exercise this option must receive permission from the dean of the College of Journalism and Mass Communications.

A transfer student with 11 or 12 semester hours of accepted credit in a single foreign language has two choices: a) to complete 201 and 202 in the same language; or b) to enroll in 202 with permission of the chair of the Department of Modern Languages and Literatures.

A student from a foreign country who has demonstrated acceptable proficiency in his or her native language (other than English) is exempted from the Group J requirement without credit toward the degree. U.S. citizens who present acceptable evidence that their second language is English are

exempted from the language requirement without credit toward the degree. All such students should see the dean of the College of Journalism and Mass Communications for this exemption.

### Specific Non-Major Requirements

The College of Journalism and Mass Communications requires all students to complete the following specific course requirements. Many of these may also count toward ACE outcomes or toward distribution requirements:

- A. Two writing courses—one for ACE outcome 1 and one for the Distribution Requirement Area 1. One of the two must be from English courses shown for ACE outcome 1.
- B. Three hours from political science—this counts for Distribution Requirement Area 4.
- C. Six hours from economics. These will also count toward ACE outcomes 6 and 8.
- D. Nine hours from history—one course for ACE outcome 5, one for Distribution Requirement Area 3, and possibly one for ACE outcome 9.
- E. Nine hours from a humanities department or departments other than history. See ACE outcomes 5 and 9.
- F. A total of 65 hours selected from the traditional liberal arts departments. See the degree audit for a list of these departments.
- G. A total of 80 hours from outside the college.
- H. Three 12-hour concentrations or one 24-hour concentration and one 12-hour concentration. A specified minor may take the place of one 12-hour concentration. A major of 24 or more hours may take the place of a 24-hour concentration. Any of these options must be from outside the College of Journalism and Mass Communications.
- I. Thirty of the 125 (or 130) semester hours of credit must be in courses numbered above 299. **NOTE:** ALEC 397E and ALEC 397K do not count toward these 30 hours.

### Fine and Performing Arts Concentration

Students in the College of Journalism and Mass Communications may complete a 24-hour interdisciplinary concentration in courses from the College of Fine and Performing Arts. This concentration would include classes in: 1) art and art history; 2) music; 3) theater and film; 4) dance.

Students would select courses from the following:

- A. One 3-hour course from each of the four areas... 12
- B. Three hours of skills courses (performance or lessons) in one of the four areas..... 3
- C. One 3-hour "capstone" course—a 498 course from one of the four areas ..... 3
- D. Two 3-hour courses in one of the four areas..... 6

Course options for students:

#### I. Art & Art History

- AHIS 101. Art History Survey I  
AHIS 102. Art History Survey II  
DRAW 101. Drawing (non-majors)  
CERM 131. Ceramics (non-majors)  
PHOT 261. Photography (*only offered summers*)  
Art Studio 200-level courses: Vis-Lit 140AB and 141AB, as a prerequisite  
Art History 200-level courses: Prerequisite sophomore standing  
Art History 300-level courses: Prerequisite AHIS 101 and AHIS 102

### II. Theatre & Film

- |  |      |
|--|------|
| THEA 112G Intro To Theatre .....         | 3 cr |
| THEA 114 Basic Acting I .....            | 3 cr |
| THEA 201 Technical Theatre Practice..... | 3 cr |
| THEA 234 Scripts in Performance.....     | 3 cr |
| THEA 335 History of Theatre I.....       | 3 cr |
| (prereq THEA 112G)                       |      |
| THEA 336 History of Theatre II.....      | 3 cr |
| (prereq THEA 112G)                       |      |

### III. Music

#### Academic Courses

- |   |      |
|---|------|
| MUNM 275 Music in Film.....             | 3 cr |
| MUNM 276G The Music Experience .....    | 3 cr |
| MUNM 287 History of Rock Music.....     | 3 cr |
| MUNM 387 History of American Jazz ..... | 3 cr |
| MUNM 289 Arts: 1945-Present.....        | 3 cr |
| <b>Ensembles</b>                        |      |

- |   |      |
|---|------|
| MUNM 241 City Campus Choir .....            | 1 cr |
| MUNM 241 East Campus Choir.....             | 1 cr |
| MUNM 243 Varsity (men's) Choir .....        | 1 cr |
| MUNM 245 University Singers .....           | 1 cr |
| MUNM 246 University (women's) Chorale ..... | 1 cr |
| MUNM 247 Symphony Orchestra .....           | 1 cr |
| MUNM 248A Wind Ensemble .....               | 1 cr |
| MUNM 248B Symphonic Band.....               | 1 cr |
| MUNM 248E Marching Band .....               | 1 cr |
| MUNM 249 Chamber Singers.....               | 1 cr |
| MUNM 251 Big Red Singers .....              | 1 cr |
| MUNM 253A Jazz Ensemble 1.....              | 1 cr |
| MUNM 253B Jazz Ensemble 2.....              | 1 cr |
| MUNM 253E Jazz Vocal Ensemble .....         | 1 cr |

### IV. Dance

- |  |      |
|--|------|
| DANC 112 Modern Dance and Ballet I ..... | 3 cr |
|--|------|

- |  |
|--|
| DANC 159 Introduction to the History of Dance...3 cr |
|--|

## Programs and Sequences

## Journalism Requirements

Any student transferring into the College of Journalism and Mass Communications must have a 2.0 GPA. All journalism courses are "grade only" unless otherwise noted. Only a grade of C or better will be accepted toward a major in the college.

The major is 35 hours in advertising, 35 hours in broadcasting and 35 hours in news-editorial.

Students must choose at least one of three undergraduate majors—advertising, broadcasting, or news-editorial. Each of these majors requires professional courses for students. Additionally, all students must take the core courses—JOUR 101, 142, 486, and 487.

Students may complete two majors in the College of Journalism and Mass Communications by completing all requirements for each major; however, the second major in the college will not take the place of a 24-hour concentration. The concentration requirement must be fulfilled with at least 36 hours from outside the College of Journalism and Mass Communications. A 24-hour concentration could be satisfied by a major from another college.

Applicants who speak English as a second language and plan to major in advertising, broadcasting or news-editorial must present a TOEFL score of 600 or higher. Broadcasting majors also must score at least 45 on the TSE (Test of Spoken English) exam. There is no TSE requirement in advertising or news-editorial.

## Courses of Instruction

### Core (JOUR)

[ES][IS] 101. **Principles of Mass Media** (3 cr) Lec. Open to non-College of Journalism and Mass Communications majors.

Introduction to the mass media as sources of news and entertainment conduits for messages of persuasion. Background and history about print and broadcast media and about public relations. How the media and persuasive messages both affect and are affected by society and content.

(ACE 1) 102. **The Art of Writing** (3 cr) Lec 3. Prereq: Major in the College of Journalism and Mass Communications or major in other colleges whose programs require JOUR 102; passing grade on the "Writing/Usage" proficiency exam. *Arrangements for the "Writing/Usage" proficiency exam can be made in ANDN 147.* Basic principles of creating and evaluating clear, engaging expository, descriptive, narrative and persuasive writing for defined audiences and the contribution that tight focus, effective transitions, proper grammar, spelling, usage and punctuation make to effective writing.

(ACE 2) 142. **Visual and Aural Literacy** (ARCH, ARTP, IDES, LARC, TXCD 142) (2 cr) Lec 2, lab 2. Prereq: ARTP: Art major or candidate for teaching endorsement in art. ARCH: Admission to the College of Architecture. IDES: Admission to the College of Architecture. JOUR: College of Journalism and Mass Communications major. LARC: Admission to the College of Architecture. TXCD: Textiles, Clothing and Design major or minor. Images change perceptions, the historic and economic underpinnings of visual communications, and the effects of images on individuals and groups. Advertising, typography, graphic design, photography, television, video, motion pictures, cartoons and the Internet.

(ACE 2) 162. **Visual and Aural Literacy II** (3 cr) Lec 3. Prereq: JOUR 142; 2.0 GPA. *JOUR 162 is taught in three five-week modules. JOUR 162 is 'Letter grade only.'*

Creating elements of visual storytelling using photography, videography, and graphic design.

(ACE 5) [ES][IS] 189H. **University Honors Seminar** (3 cr) Lec. Prereq: Good standing in the University Honors Program or by invitation. *One University Honors Seminar 189H is required of all students in the University Honors Program. JOUR 189H is open to University Honors Program students with any major and will count toward the degree in the College of Journalism and Mass Communications.*

Topic varies.

204. **Information Gathering** (3 cr) Lec, lab. Prereq: Sophomore standing and JOUR 102.

Introduction to techniques for gathering information for use in preparing news and advertising for public media.

324. **Feature Reporting** (3 cr) Lec. Prereq: 2.0 GPA. *JOUR 324 is 'Letter grade only.'*

Feature writing with the objective of improving the ability to produce nonfiction news stories.

326. **Sports Reporting** (3 cr) Lec 3. Prereq: NEWS 302; 2.0 GPA. *JOUR 326 is 'Letter grade only.'*

The importance of good sports reporting through clear writing and its importance to readers; the principles of different types of sports stories; how to think critically about sports media; and how the fundamentals of good reporting and writing apply to sports.

348. **The Real World I** (1 cr) Lec. Prereq: NEWS 202; 2.0 GPA. *JOUR 348 is Pass/No Pass only.*

An inside look at the news reporting business by hearing each week from working journalists at the *Omaha World-Herald*.

350. **NewsNetNebraska** (3 cr) Lec 1. Prereq: Completion of all 100- and 200-level courses required for a major in the College of Journalism and Mass Communications. *Required for a NEWS major.*

Producing a multimedia news product.

407/807. **Investigative and Computer-assisted Reporting** (3 cr) Lec 3.

Conduct investigative and in-depth reporting by using documents and computer databases, interviewing, and field research to write compelling stories.

(ACE 6) 408/808. **Politics and the Media** (3 cr) Lec 3. Current issues in media and politics, domestically and internationally.

412/812. **Literature of Journalism** (3 cr) Lec 3. The roles and effects of mass media and major works exemplifying the practice of journalism.

414/814. **Government Controls of Information** (3 cr) Lec 3. Laws, regulations, and practices by which federal, state, and local government enhance or retard access to information about the executive, legislative, and judicial branches.

422/822. **Race, Gender, and Media** (3 cr) Lec. Open to non-College of Journalism and Mass Communications majors.

Multicultural and gender diversity issues within the mass media. Broadcast news, print, and advertising media messages of racial, ethnic, and gender based minorities including African Americans, Hispanic Americans, Asian Americans, Native Americans, and women.

(ACE 1) 444/844. **Science Writing** (3 cr) Lec. Prereq: Permission. Open to non-College of Journalism and Mass Communications majors. *Articles will be submitted for publication.*

Advanced writing about science for the non-expert and/or for the general audience. Issues in science communication through reading the best writers in science and journalism. Research and write short articles and longer profiles about science and scientists at the University of Nebraska-Lincoln (UNL) and elsewhere. Polish writing skills for doing work in science classes.

448. **The Real World II** (3 cr) Fld. Prereq: JOUR 348; 2.0 GPA. *JOUR 448 is for four students from a previous Real World I class who are chosen to participate in a fellowship at the Omaha World-Herald newspaper. JOUR 448 is 'Letter grade only.'* Fellowship at the *Omaha World-Herald* newspaper.

464/864. **Sports Media Relations** (3 cr) Lec 3. Prereq: Junior standing.

Issues in sports media relations and integrated marketing communications. Background of the unpredictable nature of the sports industry and the relationships with its various publics and the media.

[ES][IS] 485/885. **Mass Media History** (3 cr) Prereq: Junior standing; major in advertising, broadcasting, or news editorial. History of American mass media in cultural and philosophical contexts; the evolution of mass media as a social institution.

[ES][IS] 486/886. **Mass Media Law** (3 cr) Lec 3. Prereq: Junior standing; major in ADVT, BRDC, or NEWS.

The legal basis for freedom of speech and press. The limitations imposed upon rights by statute, common law and court decisions. Resolving conflicts between those rights and other constitutional rights. Enhancing critical-thinking and writing skills. Roles, rights, and responsibilities of mass media in a free society through analysis of cases.

(ACE 8) [ES][IS] 487/887. **Mass Media and Society** (3 cr) Prereq: Senior standing; major in advertising, broadcasting, or news-editorial. *Required of all students seeking a degree through the College of Journalism and Mass Communications.*

Interrelationships between the American mass media and society; integrating ethics, theories and contemporary issues.

498/898. **Special Topics** (1-4 cr, max 12) *JOUR 498/898 may be repeated up to three times so long as the topics are different.*

Topics vary each term.

### Journalism-General (JGEN)

(ACE 1) [ES] 120. **Basic Business Communication** (3 cr)

Principles of written professional communication. Language basics, functional documents and readability.

(ACE 2) 140A. **Visual Literacy Lab: Analysis and/or Composition** (ARCH, ARTP, IDES, LARC, TXCD 140A) (2 cr) Lab 6.

Prereq: ARTP: Art major or candidate for teaching endorsement in art. ARCH: Admission to the College of Architecture. IDES: Admission to the College of Architecture. JGEN: College of Journalism and Mass Communications major. LARC: Admission to the College of Architecture. TXCD: Textiles, Clothing and Design major or minor.

For course description, see ARTP 140A.

(ACE 2) 140B. **Visual Literacy Lab: Perceptual Drawing**

(ARCH, ARTP, IDES, LARC, TXCD 140B) (2 cr) Lab 6. Prereq: ARTP: Art major or candidate for teaching endorsement in art. ARCH: Admission to the College of Architecture. IDES: Admission to the College of Architecture. JGEN: College of Journalism and Mass Communications major. LARC: Admission to the College of Architecture. TXCD: Textiles, Clothing and Design major or minor.

For course description, see ARTP 140B.

(ACE 2) 141A. **Visual Literacy Lab: Color** (ARCH, ARTP, IDES,

LARC, TXCD 141A) (2 cr) Lab 6. Prereq: ARTP: Art major or candidate for teaching endorsement in art. ARCH: Admission to the College of Architecture. IDES: Admission to the College of Architecture. JGEN: College of Journalism and Mass Communications major. LARC: Admission to the College of Architecture. TXCD: Textiles, Clothing and Design major or minor.

For course description, see ARTP 141A.

(ACE 2) 141B. **Visual Literacy Lab: Speculative Drawing**

(ARCH, ARTP, IDES, LARC, TXCD 141B) (2 cr) Lab 6. Prereq: ARTP: Art major or candidate for teaching endorsement in art. ARCH: Admission to the College of Architecture. IDES: Admission to the College of Architecture. JGEN: College of Journalism and Mass Communications major. LARC: Admission to the College of Architecture. TXCD: Textiles, Clothing and Design major or minor.

For course description, see ARTP 141B.

(ACE 2) 143. **Visual Literacy: Art and Design** (ARCH, ARTP,

IDES, LARC, TXCD 143) (2 cr) Lec 2. Prereq: ARTP: Art major or candidate for teaching endorsement in art. ARCH: Admission to the College of Architecture. IDES: Admission to the College of Architecture. JGEN: College of Journalism and Mass Communications major. LARC: Admission to the College of Architecture. TXCD: Textiles, Clothing and Design major or minor.

For course description, see ARTP 143.

[IS] 184. **Basic Photography** (3 cr) Lec, lab. *Credit in JGEN 184 will not count toward the major in any department in the College of Journalism and Mass Communications. Students must provide their own camera, flash, developing supplies, film and paper. Display of finished work required.*

Basic skills in photography. Developing and printing of black and white materials. Camera operations. Depth of field and action. Composition and lighting.

(ACE 2) 187H. **Honors: Introductory Communication Seminar I** (RAIK 187H) (1 cr) Lec 1. Prereq: Good standing in the University Honors Program and admission to the Jeffrey S. Raikes School of Computer Science and Management.

Introduction to oral and written communication within the context of the Jeffrey S. Raikes School of Computer Science and Management. Basics of writing, editing and presentation.

(ACE 2) 188H. **Honors: Introductory Communication Seminar II** (RAIK 188H) (2 cr) Lec 1. Prereq: Good standing in the University Honors Program; admission to the Jeffrey S. Raikes School of Computer Science and Management; JGEN/RAIK 187H. *Continuation of JGEN/RAIK 187H.*

Basics of writing, editing and presentation.

(ACE 1) [ES][IS] 200. **Technical Communication I** (3 cr I, II) Lec 3. *JGEN 200 does not count toward any College of Journalism and Mass Communications major. JGEN 200 is 'Letter grade only.'*

Introduction to written and oral communication and document design principles and strategies as applied in the sciences and technology. Communications for various audiences and/or purposes and/or situations.

(ACE 1) 220. **Business Communication Strategies** (3 cr) Lec 3.

Prereq: Sophomore standing; 3 hrs English composition or business communication.

Principles of effective written and oral business communication. Communication strategies used in business disciplines.

(ACE 1) 287H. **Honors: Applied Communication Seminar I**

(RAIK 287H) (1 cr) Lec 1. Prereq: Good standing in the University Honors Program; admission to the Jeffrey S. Raikes School of Computer Science and Management; JGEN/RAIK 188H. Application of oral and written communication within the context of the Jeffrey S. Raikes School of Computer Science and Management. Professional writing and oral presentations.

(ACE 1) **288H. Honors: Applied Communication Seminar II** (RAIK 288H) (2 cr) Lec 1. Prereq: Good standing in the University Honors Program; admission to the Jeffrey S. Raikes School of Computer Science and Management; JGEN/RAIK 287H. Continuation of JGEN/RAIK 287H. Professional writing and oral presentations.

(ACE 1, 2) **[ES][IS] 300. Technical Communication II** (3 cr I, II) Lec 3. *JGEN 300 does not count toward any College of Journalism and Mass Communications major. JGEN 300 uses team and oral communication projects. JGEN 300 is 'Letter grade only.'* Interdisciplinary approach to written and oral communications. Application of course work from the major to issues in science and technology. Integrates various perspectives through collaborative learning.

**\*498. Special Topics** (JGRD \*898) (1-4 cr, max 12) JGEN 498/898 may be repeated up to three times so long as the topics are different. Topics vary each term.

## Advertising Sequence

**Professors:** Crumley (emeritus), N. Mitchell, Shipley

**Associate Professor:** Hachtmann

**Assistant Professors:** Lauerman, Peon-Casanova, Struthers

**Senior Lecturers:** Goff, James, Larsen

**Lecturers:** R. B. Mitchell, Tidball, Wagler, Willet

### Requirements for the Major in Advertising

The courses required for a 35-hour major in advertising are as follows:

**ADVT** 251, 283, 333, 357, 460, 489  
**JOUR** 101, 142, 486, 487; and 6 elective journalism hours

### Courses of Instruction (ADVT)

**098. Senior Assessment** (0 cr) Ind. Prereq: Senior standing; ADVT major; candidate for degree. *All seniors must complete an exit interview to remain eligible for graduation. ADVT 098 uses Blackboard. Pass/No Pass only.*

Appropriate career-related announcements, activities, and responsibilities.

**[IS] 207. Communicating to Public Audiences** (ALEC 207) (3 cr II) Lec 3. Prereq: Completion of the College of Agricultural Sciences and Natural Resources (CASNR); completion of all CASNR core communications course requirements. College of Journalism and Mass Communications: JOUR 102. For course description, see ALEC 207.

**251. Principles of Strategic Communication** (3 cr) Lec 3. *ADVT 251 is open to non-College of Journalism and Mass Communications majors.*

Fundamental concepts and processes underlying integrated marketing communications in a global market place. The discipline's historical roots and current role of professionals.

**(ACE 1) 283. Writing for Strategic Communications** (3 cr) Lec 3. Prereq: Sophomore standing; JOUR 101 or ADVT 251; JOUR 102. *ADVT 283 assignments provide practical writing experience. Writing assignments require incorporation of research or existing knowledge in copy, and the use of applicable documentation, and appropriate conventions of format and structure.*

How to write promotional copy correctly and clearly in forms and styles appropriate to specific audience needs, with identified purposes, and for a variety of media. Client problems and possible solutions. Develop and evaluate strategies and tactics for promotional communications.

**(ACE 2) 333. Strategic Communications Graphics** (3 cr) Lec 1, lab 3. Prereq: ADVT 283; JOUR 142.

Introduction to graphics and design of advertising. Principles and techniques of typography, layout and design, computer graphics, printing processes, and production methods. Develop strategies and design ads for advertising media. The basics of computer graphic design programs.

**[IS] 357. Strategic Communications Research and Strategy** (3 cr) Lec, lab. Prereq: Junior standing; ADVT 283 and 333. Communication strategies and the role that research plays in the development of an integrated marketing communication campaign. Analysis and application of creative strategies, product positioning, branding and writing techniques used for different media, audiences, and product categories and clients.

**[IS] 417. Issues Management and Crisis Communications in Agriculture** (ALEC 417) (3 cr I) Lec 3. Prereq: Junior standing. College of Journalism and Mass Communications: Junior standing; ADVT 283; JOUR 102. For course description, see ALEC 417.

**433/833. Advanced Communications Graphics and Electronic Design** (3 cr) Lec 3. Prereq: ADVT 333. *ADVT 433/833 has individual and team projects.*

Visual and graphic design as applied to the corporate environments of advertising and public relations. Print and electronic design principles, strategies and elements using traditional and new digital technologies. Development of creative materials for actual clients, corporate identities, electronic presentations, professional creative portfolios, non-traditional resumes, and World Wide Web (WWW) sites.

**(ACE 9) 438/838. Global Advertising** (3 cr) Lec 3. Prereq: ADVT 283.

Global advertising and communication. Cultural, economic, political and social differences that affect advertising strategy and execution in foreign markets. Advertising a USA product or service in the global market.

**447/847. Strategic and Creative Concepting** (3 cr) Lec 3. Prereq: ADVT 333.

The alternative and advanced methods of communicating a message, a need, a perception or attitude. Creative storytelling and problem-solving, critique and analysis, and how to creatively communicate with strategic thinking and design.

**(ACE 6) 450/850. Public Relations Theory, Strategy and Management** (3 cr) Lec 3. Prereq: ADVT 283 or BRDC 227 or NEWS 202.

Philosophies and theories that underlie the discipline and profession of public relations. The critical and supportive perspectives used to gain insight into the history and direction of public relations.

**(ACE 1) 451/851. Advertising and Public Relations Techniques** (3 cr) Lec 3. Prereq: ADVT 283 or BRDC 227 or NEWS 202.

Multimedia tools in advertising, public relations, direct marketing, and sales promotion. Promotional writing, publications development, and media relations.

**458/858. New Media Design** (3 cr) Lec, lab. Prereq: ADVT 333 or JOUR 162.

The new media and interactive technologies used in a variety of print, broadcast, and electronic media, and digital communications. Writing, designing, and producing communications messages using traditional and new multimedia technologies.

**459/859. Advertising and Public Relations in the Electronic Media** (3 cr) Lec 3. Prereq: ADVT 357 or BRDC 228.

Analysis and preparation of radio and television commercials and announcements in terms of content and production techniques. Development of structure and functions of the broadcast advertising media. Regulation, responsibilities, audience analysis, and promotion.

**[IS] 460/860. Media Planning and Strategy** (3 cr) Lec 3. Prereq: Junior standing; ADVT 357. *ADVT 460 assignments include evaluating, selecting, and planning the use of media.*

The principles and practices of planning, evaluating, and selecting a variety of traditional and non-traditional media in a local and national context. Marketing-driven strategic approaches to understand how media fits into an integrated communication system. Integrating information from a variety of resources and applying basic numerical and statistical concepts that build the foundation for strategic media planning.

**481/881. Advertising and Public Relations Research** (3 cr) Lec 3. Prereq: ADVT 357. *Experience the actual research process and produce a report.*

Research in the planning, development and evaluation of advertising. The research process, use of secondary sources of information and how to analyze data from these sources. The planning and execution of primary research. Survey techniques.

**482/882. Direct Advertising** (3 cr) Lec 3. Prereq: ADVT 283. *ADVT 482/882 assignments provide practical experience.*

Fundamentals of direct advertising, data base building and management, the economics of the industry, development and testing of effective creative materials, product selection and pricing, telemarketing, business to business direct advertising, lead-generating programs, the use of electronic and print media in the direct advertising mix and fund-raising for worthy causes.

**484/884. Advertising Management** (3 cr) Lec 3. Prereq: ADVT 357.

The managerial philosophy, techniques, and processes in advertising. Organizational structures, integrated marketing communications, strategic planning, marketing planning, advertising planning, advertising research, budgeting, and decision paradigms.

**488/888. Media Sales and Promotion** (3 cr) Lec 3. Prereq: For ADVT majors: ADVT 283. For BRDC majors: Junior standing. Techniques for print and electronic media sales and promotion. Rate structures, legal requirements, and social and economic effects.

(ACE 10) **[IS] 489/889. Advertising and Public Relations Campaigns** (3 cr) Lec 3. Prereq: Senior standing; ADVT 357. *ADVT 489 requires working in teams.*

Conduct research and evaluate the findings to develop and present an integrated marketing communications strategy and creative materials for a multimedia advertising and public relations campaign needed by a client. Application of knowledge, experience, and skills learned in previous courses to a new situation.

**496. Independent Study in Advertising** (1-24 cr, max 24) Prereq: Permission.

**498/898. Special Topics in Advertising** (1-4 cr, max 12) *ADVT 498/898 may be repeated up to three times so long as the topics are different.*

Topics vary each term.

**499H. Honors Course.** (1-4 cr) Prereq: For candidates with distinction, with high distinction, and with highest distinction in the College of Journalism and Mass Communications.

## Broadcasting Sequence

**Professors:** Hull (emeritus), Lee, Mayeux (emeritus), Renaud, Walklin

**Associate Professors:** Creighton, McCoy, Spann (emeritus)

**Associate Professor and General Manager, KRNU-FM**

**Radio:** Alloway

**Professor of Practice:** Christensen

### Requirements for the Major in Broadcasting

The broadcasting major is 35 hours with 15 of the hours selected to develop emphasis in either news or production.

All broadcasting majors complete JOUR 101, 142, 162, 486, 487 and 6 hours of electives from journalism areas.

Those who pursue a news emphasis also complete NEWS 202, JOUR 350, and BRDC 369, 370 and 372.

Those who pursue a production emphasis additionally complete BRDC 227, 228, 359, 360 and 362.

### Requirements for the Minor in Broadcasting

A broadcasting minor (18 hours) is available only for meteorology majors and environmental studies majors with a meteorology emphasis. These students complete the following required 12 hours:

JOUR 162; BRDC 369, 370 and 372.

Students also complete 6 elective hours chosen from BRDC 498T; NEWS 202; JOUR 101 or 350.

Students completing the BRDC minor are not required to complete prerequisite courses shown in the descriptions of the courses above. Students from the College of Arts and Sciences will need to check with their home college to determine whether this minor meets Arts and Sciences' requirements for a minor.

## Courses of Instruction (BRDC)

**098. Senior Assessment** (0 cr) Ind. Prereq: Senior standing; BRDC major; candidate for degree. *All seniors must complete an exit interview to remain eligible for graduation. BRDC 098 uses Blackboard. Pass/No Pass only.*

Appropriate career-related announcements, activities, and responsibilities.

**[ES] 226. Introduction to Broadcasting** (COMM 226) (3 cr) Prereq: Sophomore standing; or freshman standing with a minimum of 12 hrs completed, broadcasting major, and 3.0 GPA in major. Development of the American system of broadcasting and the telecommunication industry.

**227. Principles of Audio Production** (3 cr) Lec, lab. Prereq: Sophomore standing; completion of all 100-level College of Journalism and Mass Communications core courses. Theory and use of sound, audio production, and vocal performance for electronic media applications. Write correctly and clearly for electronic media. Tools and technologies appropriate for electronic media applications using the college's FM radio station and audio production studios. Basic numerical and statistical concepts to understand audience measurement.

**228. Television Production** (3 cr) Lec 3. Prereq: BRDC 227. *BRDC 228 is a production track course.* Concepts, theories, technologies, and techniques needed for planning, scripting, producing, directing, and performing in professional multi-camera remote and in-studio television programs, interview shows, and demonstration shows. Directing, switching, and operating studio equipment.

**229. Audio Production Laboratory** (1-3 cr, max 3) Lab. Prereq: Parallel BRDC 227. *Utilizing the facilities of KRNU (FM).* Audio production techniques and broadcast performance.

**234. Audio and Studio Video Production** (3 cr) Prereq: Sophomore standing. *Open to non-broadcasting majors only. Lab work in University of Nebraska-Lincoln facilities.* Basic audio and studio video production techniques and processes; studio operations, microphones, audio editing, talent selection and use, portable audio equipment, production planning/budgeting, cameras, lighting, new telecommunications technologies.

**269. Field Video Production** (3 cr) Prereq: Sophomore standing. *Open to non-broadcasting majors only. Lab work in University of Nebraska-Lincoln facilities.* Basic field video production techniques, processes, and systems; cameras, lenses, mounting equipment, picture composition, videotape editing, audio recording and editing; field lighting, on-camera talent use, multimedia production considerations.

**359. Cinematography-Videography** (3 cr) Lec 3. Prereq: Junior standing; BRDC 227; JOUR 162. *BRDC 359 is a production track course.* Concepts, theories, technologies and techniques needed for planning, scripting, shooting, and editing different genres and styles of professional, single-camera video productions, features, music videos, instructional videos, commercials, and drama. Composition, continuity, sequencing, aesthetics, and audiences. Operation of professional video cameras and nonlinear editing and graphics software.

**360. Broadcast Writing** (3 cr) Lec 3. Prereq: Junior standing; BRDC 228. *BRDC 360 is a production track course.* Writing scripts and preparing materials for broadcast, cable, and video streaming production processes. Audience composition, thorough research of topics, and adaptation to concurrent delivery through multiple mass media technologies. Awareness of diverse audiences and use of statistics.

**362. Advanced Production** (3 cr) Lab. Prereq: BRDC 359 and BRDC 360. *BRDC 362 is the capstone course in the production track.*

Produce a weekly, long-form, edited television program to be distributed to a mass audience. Directing a weekly, live, thirty-minute television studio newscast. Advanced operation of studio equipment, graphics software and nonlinear editing equipment. Prepare demo materials for a professional portfolio.

**369. News Videography** (3 cr) Lec 3. Prereq: Junior standing; NEWS 202; JOUR 162. *BRDC 369 is a news track course.*

Produce a news story worthy of airing live during Star City News. Produced live newscast aired in Lincoln. What is news. How to make contact with news makers. How to perform interviews. How to write a news story with a beginning, a middle, and an end. How to shoot and edit the video that supports the story.

**[IS] 370. Broadcast News Writing** (3 cr) Lec 3. Prereq: Junior standing; NEWS 202; JOUR 162. *BRDC 370 is a news track course.*

Clear and correct writing principles. Journalistic research techniques. Use of new tools and technologies to create broadcast news content for KRNU radio and other broadcast outlets.

**[IS] 372. Advanced Reporting for Broadcasting** (3 cr) Lec 3. Prereq: BRDC 369 and 370. *BRDC 372 is a news track course.* Advanced broadcast news writing, editing, and production.

**375. Sports Broadcasting** (3 cr) Lec 3. Prereq: BRDC 370 or parallel. *BRDC 375 requires a radio newscast shift.* Broadcast sports reporting. Play-by-play sports reporting.

**379. Corporate and Organizational Video** (3 cr) Prereq: BRDC 369 or parallel.

Intensive exploration of television and related visual communications technologies in the corporate and organizational environment. Formulation, production and applications of informational and motivational video communications in corporate and nonprofit operations.

**428/828. Advanced Television Production** (3 cr) Prereq: BRDC 228.

Theory of visualization for television. Practical application of directing techniques. Programs analyzed in relation to translation of facts, ideas, emotions and attitudes through television. Program production experience in the studios of the university station, KUON-TV.

**454/854. Broadcast Management** (3 cr) Prereq: Senior standing and major in broadcasting.

Organizational and management procedures as they relate to the telecommunications media.

**455/855. Broadcast Programming** (3 cr) Prereq: Senior standing and major in broadcasting.

Radio and television program philosophies and formats with emphasis on regulations, responsibilities, economics and audience measurement procedures.

**456/856. Cable Telecommunications** (3 cr) Prereq: BRDC 228.

Development of cable telecommunications systems and relevant regulatory aspects of cable development. Current and future projections of cable systems management systems-satellites, teletext, interactive, access channels, importation, origination, pay cable.

**[ES] 461/861. Instructional Television** (3 cr) Prereq: Senior standing in broadcasting.

Preparation of instructional television programs. Historical development of television as an instructional medium, learning and communication theory relevant to proper applications of televised instruction.

**[ES] 465/865. International Broadcasting** (3 cr) Prereq: Senior standing in broadcasting or international studies.

Development of programming patterns and controls as well as cultural consideration of national and international systems of broadcasting.

**[IS] 466/866. Telecommunication and Information Systems** (3 cr) Prereq: Permission of department head. *Open to non-majors.*

The telephone industry, voice and data communication and networking systems. Explores the development and structure of telecommunications, issues, services, applications, technology and management.

**469/869. Advanced Cinematography/Videography** (3 cr) Lec 3. Prereq: BRDC 359 and 369. *BRDC 469/869 is continuation of BRDC 359 and 369.*

Production of single and double system sound films. Production of videotapes for television.

**473/873. Broadcast Documentary** (3 cr) Prereq: Senior standing in broadcasting; BRDC 372.

Depth reporting and advanced production techniques necessary for the preparation of a broadcast documentary program.

**474/874. Advanced Broadcast Writing** (3 cr) Prereq: Senior standing in College of Journalism and Mass Communications.

Techniques of planning, preparing and writing radio, television and motion picture scripts including announcements, interviews, talk programs, features, editorials, investigative reports and dramatic adaptations.

**496. Independent Study in Broadcasting** (1-24 cr, max 24) Ind.

**498/898. Special Topics in Broadcasting** (1-4 cr, max 12) *BRDC 498/898 may be repeated up to three times so long as the topics are different.*

Topics vary each term.

**499. Honors Course** (1-4 cr) Prereq: For candidates for degrees with distinction, with high distinction and with highest distinction in the College of Journalism.

## News-Editorial Sequence

**Professors:** Bender, Berens, Botts (emeritus), Norton, Starita, Tuck (emeritus)

**Associate Professors:** T. Anderson, Bullard, Frazell (emeritus), Kimbrough, Neal (emeritus), Pagel (emeritus), Quinlan, Thorson

**Assistant Professor:** Winter

**Lecturer:** Johnsen,

## Requirements for the Major in News-Editorial

The courses required for a 35-hour major in news-editorial are as follows:

NEWS 201, 202, 302; and 3 hours from 303, 404 or a 400-level reporting course; 6 hours of elective from NEWS

JOUR 101, 142, 162, 350, 486, 487

## Courses of Instruction (NEWS)

**098. Senior Assessment** (0 cr) Ind. Prereq: Senior standing; NEWS major; candidate for degree. *All seniors must complete an exit interview to remain eligible for graduation. NEWS 098 uses Blackboard. Pass/No Pass only.*

Appropriate career-related announcements, activities, and responsibilities.

**201. Principles of Editing** (3 cr) Lec 3. Prereq: Completion of all 100-level College of Journalism and Mass Communications core courses.

Fundamentals of editing for print, online, and broadcast.

Evaluating content for accuracy and fairness. Application of AP style. Writing headlines and captions for print and online. Critically evaluating and improving stories for a variety of media platforms.

(ACE 1) **[ES] 202. Beginning Reporting** (3 cr) Lec 3. Prereq:

Completion of all 100-level College of Journalism and Mass Communications core courses; BRDC or NEWS major.

Basic principles of reporting and writing for news media.

Awareness of ethical principles of journalism and application of basic statistics.

**[IS] 302. Beat Reporting (3 cr)** Lec 3. Prereq: Completion of all 100-level College of Journalism and Mass Communications core courses; NEWS 201 and 202. Skills and techniques for reporters need to work a beat. Issues, documents, and sources for some of the most common beats for print, online, and broadcast (news) reporters. Ethical challenges in journalism and conducting research to inform newsworthy stories.

**[IS] 303. Advanced Editing (3 cr)** Lec, quiz. Prereq: Completion of all 100-level College of Journalism and Mass Communications core courses; NEWS 201 and 202. Line editing, headline writing, news judgement, flow and control of the news in a newsroom, photo editing and layout.

**305. The Magazine Article (3 cr)** Prereq: Completion of all 100-level College of Journalism and Mass Communications core courses; NEWS 302. Intensive practice in writing magazine articles for the general and specialized markets. Writing techniques, subject matter research and magazine market research. Students required to offer completed articles in the two market categories to editors for consideration and publication.

**306. Lab Newspaper (3 cr)** Lec 1, quiz 3. Prereq: NEWS 201, 202, 302, and 404/804. *NEWS 404/804 is waived for "Reporters" and "Editors," but required for "Photographers."* Publication of a weekly laboratory newspaper.

**386. Magazine Editing (3 cr)** Lec. Prereq: NEWS 302 and 303. *Laboratory problems.* Scope, influence and responsibilities of the magazine as a cultural and social force. Market research, dealing with authors and photographers, copy editing, editing of illustration, page layout and typographical display.

**401/801. Depth Reporting (3 cr)** Lec. Prereq: NEWS 302. *Individual assignments and conferences.* Gathering and presenting stories that require extensive interviewing, backgrounding, and research.

**404/804. Digital News Photography (3 cr)** Stu. Prereq: Completion of all 100-level College of Journalism and Mass Communications core courses; JOUR 302; NEWS 201 and 202. News, feature, sports, and picture story journalism.

**406/806. Advanced Digital News Photography (3 cr)** Lec 2, lab 2. Prereq: NEWS 404/804. Production of professional-level photographs in a news journalism framework.

**410/810. Page Design (3 cr)** Lec 3. Prereq: JOUR 162; NEWS 201; 2.0 GPA. *JOUR 410 is "Letter grade only."* Designing elements of news presentation, including newspapers, magazines, and Web sites.

**467/867. School Publications (3 cr)** Prereq: Open only to students seeking a 7-12 journalism teaching endorsement. Problems and procedures involved in producing school newspapers, yearbooks, literary magazines and radio/video projects.

**479/879. Advanced Graphics (3 cr)** Lec. Prereq: NEWS 303. *Intensive lecture/laboratory experience.* Journalism writing and editing with computer graphics technique.

**496. Independent Study in News-Editorial (1-24 cr, max 24)** Ind.

**498/898. Special Topics in News-Editorial (1-4 cr, max 12)** *NEWS 498/898 may be repeated up to three times so long as the topics are different.* Topics vary each term.

**499H. Honors Course (1-4 cr)** Prereq: Candidate for degree with distinction or high distinction or highest distinction in the College of Journalism and Mass Communications.

**\*803. Public Journalism (3 cr)** Prereq: NEWS 371 or BRDC 372.

**\*804. Newsroom Management and Organization (3 cr)**





# Reserve Officers Training Corps

Information about the Reserve Officers Training Corps (Army, Navy, Marines, and Air Force) education program, requirements, and courses of instruction is presented on the following pages.

See "College Graduation Requirements" on page 135 for the College of Arts and Sciences policy regarding elective credit in Military Science, Naval Science, Aerospace Studies and physical education and recreation. See "Military Science, Naval Science, Aerospace Studies and/or Physical Education" on page 115 for the College of Architecture policies.

Students who are considering seeking a commission in the Armed Forces should be aware that Department of Defense regulations impose standards of personal and sexual conduct on Armed Forces personnel, as reflected in the Uniform Code of Military Justice, that may not be consistent with University Equal Opportunity standards. For information on these policies contact any one of the commanders of UNL's ROTC programs or Student Legal Services.

## Aerospace Studies

### Air Force Reserve Officer Training Corps (Air Force ROTC)

Chair: Lt. Col. Scott D. Vilter, 209 Military and Naval Science Building

The Department of Aerospace Studies conducts the Air Force officer education program. The purpose of the Air Force ROTC program at the University of Nebraska-Lincoln is to commission selected, qualified students as officers in the United States Air Force. The aerospace studies

curriculum is a series of professional courses designed to enrich the Air Force ROTC student's overall academic experience at the University.

Introductory courses in aerospace studies provide information about the relationship of aerospace power to national defense and consider past, present, and future activities in the aerospace area. Freshman and sophomore courses educate students in national defense organization, structure of the Air Force, military alliance systems, aerospace history, and elements of national strength. The junior year is devoted to a study of leadership and management and preparation for active duty through courses in leadership, motivation theory, group dynamics, and principles of management. During the senior year, the cadets examine the relationship of the military to American society and analyze the international and domestic environment affecting US defense policy. The ROTC courses place strong emphasis on communicative skills, leadership, and self-development throughout the program. All Air Force ROTC students are given extensive classroom opportunities to acquire personal and professional skills in human relations, communications, problem solving, and decision making.

### Eligibility and Enrollment

Aerospace studies classes are open to all full-time students at the University of Nebraska-Lincoln, as well as students at Nebraska Wesleyan University, Doane College (Crete), Concordia University (Seward), and Southeast Community College, who have "visiting student" arrangements with the University of Nebraska for Air Force ROTC. Students register for aerospace studies the same way they sign up for any other course on

campus. For example, a first semester freshman student enrolled in the Air Force ROTC program would register for AERO 185, Foundations of the United States Air Force I, and AERO 185L, Leadership Laboratory.

To contract with the Air Force at the start of the junior year or upon receipt of a scholarship, you must be a US citizen and meet age and other requirements.

### Programs

There are three ways you can participate in Air Force ROTC. You can enroll in either the Four-Year, Three-Year, or Two-Year Program. Upon graduation, all cadets are commissioned as second lieutenants in the United States Air Force and serve four years on active duty. Pilots, navigators, and air battle managers incur a longer active duty commitment.

**The Four-Year Program.** The more popular and preferred program is the traditional Four-Year Program. An interested freshman registers for aerospace studies in the fall term of the freshman year. There is no military obligation for the first two years of the program unless you have an Air Force ROTC scholarship. The first phase of the program, known as the general military course (GMC), is taken during your freshman and sophomore years. The GMC focuses on three main themes—the military officer's role, the development of air power, and the organization of today's Air Force. The first two years places heavy emphasis on opportunities and benefits of an Air Force career so each cadet can make an informed decision before they commit themselves to military service. Cadets also attend Leadership

Laboratory where they learn about career opportunities and benefits in the Air Force, as well as practice military drill and ceremonies, leadership, customs and courtesies. Classroom instruction and the Leadership Laboratory take about 3 hours per week. Textbooks for all Air Force ROTC courses and uniforms will be provided free. After successful completion of the GMC, cadets compete for the professional officer course (POC), taken during the last two academic years in college. Cadets may complete the program while earning an undergraduate or graduate degree or any combination of the two. If selected, cadets attend a four-week summer field training encampment before entering the POC. Professional officer course classes normally meet three hours per week. Students will take part in group discussions and group problem-solving seminars, discover Air Force theories of management, analyze the role of today's US Armed Forces, and examine a broad range of American domestic and international military relationships. Members of the POC also take Leadership Laboratory to apply their leadership and management training.

**The Three-Year Program.** Students who have already completed one year of college can join the AFROTC Three-Year Program. It is identical to the Four-Year Program except students take the freshman and sophomore aerospace studies classes in one year instead of two.

**The Two-Year Program.** The Air Force ROTC Two-Year Program was devised to accommodate junior college transfer students, veterans, and those students who did not take the first two years of Air Force ROTC. The program is available for all University students having two years of study remaining at the undergraduate level, the graduate level, or a combination of the undergraduate and graduate levels. Any student with less than four years, but at least two years of study remaining, is eligible. Entry in the Two-Year Program is competitive and is based on college major, cumulative GPA, medical examination, physical fitness, and a personal interview. If accepted, cadets complete a six-week field training encampment. This training is basically the same as the four-week course with additional academic training. Upon successful completion, cadets enter the POC. Scholarship opportunities are available.

## Scholarships

High school and college students compete for Air Force ROTC college scholarships. At the University of Nebraska–Lincoln, these flat rate scholarships provide full tuition, fees, textbook allowance, and a monthly tax-free allowance during the school year ranging from \$250 to \$400.

## High School

Competitive four-year scholarships are available to high school seniors and graduates who haven't enrolled as full-time college students. In some cases, the entitlements may be extended up to 5 years. The scholarship program is especially targeted to those pursuing engineering and scientific academic degrees. However, there are scholarships

available for those enrolling in selected nontechnical degree programs, especially foreign area and foreign language studies. Applying for an Air Force ROTC scholarship doesn't obligate you in any way. Scholarship applications can be obtained from your high school counselor or the UNL Air Force ROTC detachment and are also available online at [www.unl.edu/afrotc/](http://www.unl.edu/afrotc/) and [www.afrotc.com](http://www.afrotc.com). Deadline for submitting the completed scholarship package is December 1 of the senior year of high school. Apply early for a better chance of scholarship selection. Air Force ROTC scholarship award winners are also eligible for University of Nebraska–Lincoln supplementary scholarships which can be applied to room and board expenses.

## College

Air Force ROTC offers college students two- and three-year scholarships. These scholarships offer the same benefits as those listed above. A significant number of Air Force ROTC scholarships are awarded to college students each year. These scholarships are available in both technical and nontechnical degree programs. Scholarship applicants are selected using the "whole person" concept. This includes objective factors (cumulative GPA, SAT/ACT, and the Air Force Officer Qualifying Test) and subjective factors like performance and officer potential. All academic majors are eligible for the scholarship. Members of the Air Force ROTC Cadet Wing are eligible for several other scholarships provided by the University of Nebraska–Lincoln.

## Additional Benefits

Students enrolled in the freshman and sophomore courses receive all Air Force ROTC textbooks and uniforms free of charge. Junior, senior, and all scholarship students receive aerospace studies textbooks, uniforms, and a monthly tax-free allowance during the school year ranging from \$250 to \$400.

## Curriculum

Any University of Nebraska–Lincoln, Doane College, Nebraska Wesleyan, and Concordia University student may take aerospace studies academic courses for college credit. Textbooks are provided free. No active duty obligation is incurred. Leadership laboratories are open only to students eligible for, and enrolled in, the Air Force ROTC program.

**Credit Hours.** Credit hours earned by students enrolled in aerospace studies may be used to fulfill elective credit hour requirements for graduation for any college in the University. Students should contact their college advisers to determine the number of credit hours that will apply toward degree requirements in each particular area. Completion of freshman and sophomore courses in aerospace studies earns students 1 credit hour each semester. Completion of junior and senior courses earns students 3 credit hours each semester.

**Credit Substitution.** Substitute credit may be granted for all or part of the freshman and sophomore courses in the following cases: 1) for veterans with honorable service in any branch of the United States armed forces; 2) for ROTC courses in any branch of the service successfully completed at the high school or college level; and 3) for a certificate of completion for Civil Air Patrol training.

## Military Obligation

No military obligation results from enrolling in the freshman or sophomore courses in Aerospace Studies. This provides an opportunity for a student to come into the program and "try it on for size." A military obligation occurs only when a student enters the junior year of the program or accepts an Air Force ROTC scholarship. Students who complete Air Force ROTC are commissioned as second lieutenants and will go on active duty in the United States Air Force after graduation from the University. The active duty service commitment for non-flying officers is four years. For pilots, navigators, and air battle managers, active duty service is ten, six, and six years respectively following the completion of their initial training (approximately one year each).

**Careers.** In addition to pilot and navigator positions, well over 100 other career areas are available to Air Force officers including various types of engineering, personnel, administration, intelligence, acquisition, computer science, medical, legal, meteorology, and aircraft maintenance. Attendant benefits associated with officer status include managerial positions, great pay and financial benefits, travel, and leadership opportunity. Air Force ROTC provides general officer education; no specialty or job training is conducted. Specialized or technical training is given after the officer is commissioned and enters active duty. Students are normally assigned to Air Force duties that parallel their major fields of study in college.

**Delay for Graduate Education.** An Air Force ROTC student is commissioned upon graduation from the University. If students are qualified for and interested in working toward advanced degrees, deferment from active duty may be possible until graduate degrees have been completed.

## Field Training Program

Each student who successfully receives a competitive allocation to enter the junior year professional officer course (POC) program must attend one field training encampment. This training is given at various Air Force bases during the summer, normally before entering the POC. Field training emphasizes development of leadership abilities and informs students of the many challenging career opportunities available in the Air Force. Survival and physical conditioning training are included also. Students receive travel allowances and pay for field training. All accommodations, clothing, and food are furnished. There is no obligation or commitment incurred for attending field training.

## Extracurricular Activities

Air Force ROTC extracurricular activities are of a professional, honorary, community service, and social nature designed to develop leadership qualities and to stimulate further interest in the air and space power in the United States and the world.

**Arnold Air Society.** The Arnold Air Society is a professional, honorary, service organization. Membership is open to all students enrolled in the Air Force ROTC program. Arnold Air Society sponsors charitable and community activities such as projects for orphans and retirement homes, and Big Brothers/Big Sisters. The purpose of the society is to: 1) aid in developing effective Air Force officers; 2) create a closer relationship for students in Air Force ROTC; 3) further the purpose, tradition, and concept of the United States Air Force; 4) support airpower in its role in national security; 5) advance air and space-age citizenship; and 6) foster a clearer understanding of the roles and objectives of the Air Force.

**Pershing Rifles.** The National Society of Pershing Rifles is a tri-service organization that focuses on the development of leaders. The purpose of Pershing Rifles as stated by its founder, General John J. Pershing, is "to foster a spirit of friendship and cooperation among men in the military department and to maintain a highly efficient drill company."

In 1891, General Pershing became Professor of Military Science and Tactics at the University of Nebraska. He, wishing to improve the morale of the ROTC unit, formed a select company of men, known as Company A and later renamed Company A-2. In 1893, the special drill company became a fraternal organization bearing the name of "Varsity Rifles." In 1894, the organization, in appreciation of the initiative and cooperation of Lt. Pershing, changed its name to "Pershing Rifles."

Company A-2, the oldest chapter of the oldest military fraternal organization in the United States, is still active today on the UNL campus. It competes nationally in drill, marksmanship, and tactics. Additionally, the National Headquarters for Pershing Rifles is located within the Pershing Military and Naval Science Building at UNL.

All members of Pershing Rifles strive to follow the example set by General Pershing, who later went on to earn the rank of General of the Armies, the highest rank held by any member in the military.

**Silver Wings.** Silver Wings (SW) is a national, coed, professional organization dedicated to creating proactive, knowledgeable and effective civic leaders through community service and education about national defense. It is a professional, honorary, service organization open to all students enrolled at UNL. Its mission includes the following interrelated objectives: 1) Personal development of individual members by conducting activities and projects that provide character growth through service to the community, which enables the individual member to develop a sense of purpose within and a responsibility to the local

community. 2) Professional development of individual members through local chapter activities and the national organizational structure provide members with leadership opportunities and the chance to develop professional skills. These include, but are not limited to, oral/written communication, public speaking, and project planning and execution. 3) Civic awareness: Exposure to Air Force issues and personnel enables members to develop a personal awareness of aerospace power and the role that it plays in the national defense. The leadership and skills development objectives are enhanced by opportunities for members to actively promote aerospace issues in the community through educational programs, seminars, public relations activities, and voter awareness projects.

**Civil Air Patrol/Flight Orientation Program.** Provides Air Force cadets an opportunity for aviation and aerospace education and training so as to gain a better appreciation for aviation by flying in a small private aircraft.

**Color Guard.** Provides ceremonial support for AFROTC functions as well as university and local civilian events. Membership is open to all students enrolled in Air Force ROTC.

**Dining-Out.** The Dining-Out is a formal social event held during the fall term that recognizes military customs, traditions, and procedures handed down from the Roman Legions. The AFROTC Corps invites parents, other family members, university faculty, dates, and alumni to the function. An Air Force senior officer is invited to be the guest speaker.

**Field Trips.** Each year a field trip is scheduled to one of the many Air Force bases located around the country. In the past few years, Air Force ROTC students have visited Cape Kennedy; Wright-Patterson AFB, Ohio, where the students toured the Air Force Museum; Ellsworth AFB, South Dakota, where the students toured the B-52 and B-1; the Lockheed plant (outside Carswell AFB, Texas) where the F-16 is built; Whiteman Air Force Base, Missouri, where the students were given a cockpit tour of the B-2 bomber and talked to the Secretary of the Air Force; Luke AFB, Arizona, where the students received F-16 incentive flights and shadowed Air Force officers during a normal duty shift; and Peterson AFB, Colorado, where students toured the North American Aerospace Defense Command (NORAD) and the Air Force Academy, located near Colorado Springs, Colorado.

**Intramural Sports.** Open to all cadets, intramural sports includes softball, football, basketball, volleyball, soccer, and other sports.

**Stadium Security Assistance.** Air Force ROTC cadets, in conjunction with the other ROTC programs, provide support for the athletic department during home football games and other university-sponsored events.

## Courses of Instruction (AERO)

### The General Military Course

(Freshman and Sophomore Courses)

This course is designed to acquaint the student with aerospace power and its role in accomplishing the Air Force mission in our national defense. It also outlines the benefits of an Air Force career.

**185. Foundation of the United States Air Force I (1 cr)**  
Officership, communication skills, opportunities, and benefits in today's US Air Force. A weekly one and one-half hour Leadership Lab consists of Air Force customs and courtesies, Air Force environment, drill and ceremonies.

**185L. Leadership Laboratory (0 cr)** *Successful completion of this course is required for commissioning. Pass/No Pass only.*  
Increasing students' knowledge of Air Force uniform wear, customs, and active duty opportunities.

**186. Foundation of the United States Air Force II (1 cr)**  
Communication and leadership skills, US Military history, and the organizational structure of today's US Air Force. A weekly one and one-half hour Leadership Lab consists of Air Force customs and courtesies, Air Force environment, drill and ceremonies.

**186L. Leadership Laboratory (0 cr)** *Successful completion of this course is required for commissioning. Pass/No Pass only.*  
Increasing students' knowledge of Air Force uniform wear, customs, and active duty opportunities.

**295. The Evolution of US Air and Space Power I (1 cr)** Prereq: AERO 186 or permission.

History of the development and deployment of airpower from the Wright Brothers' first flight to the Persian Gulf War and how the events were affected by technology, politics, doctrine, and geography. Emphasizes US airpower.

**295L. Leadership Laboratory (0 cr)** *Successful completion of this course is required for commissioning. Pass/No Pass only.*  
Introduction to cadet leadership training. Practical experience in leadership roles.

**296. The Evolution of US Air and Space Power II (1 cr)** Prereq: AERO 295 or permission.  
History of the development and deployment of airpower from the Wright Brothers' first flight to the Persian Gulf War and how the events were affected by technology, politics, doctrine, and geography. Emphasizes US airpower.

**296L. Leadership Laboratory (0 cr)** *Successful completion of this course is required for commissioning. Pass/No Pass only.*  
Introduction to cadet leadership training. Practical experience in leadership roles.

### The Professional Officer Course

(Junior and Senior Courses)

The junior- and senior-year course in aerospace studies emphasizes the personal development and leadership qualities essential to an Air Force officer. The student participates in staff planning, problem solving, and exercises that demonstrate leadership ability.

**331. Air Force Leadership Studies I (3 cr)** Prereq: Permission of professor of aerospace studies.  
Communications skills, leadership, quality initiatives, and human relations. Requires cadet research and participation in the instructional process.

**332. Air Force Leadership Studies II (3 cr)** Prereq: AERO 331, or permission of professor of aerospace studies.  
Principles of leadership, professionalism, ethics, communications skills, and problem solving, including quality leadership applications.

**331L and 332L, Leadership Laboratory (0 cr)** *Successful completion of this course is required for commissioning. Pass/No Pass only.* Practical application of the principles of leadership in the operation and administration of the cadet wing.

**441. National Security Affairs and Preparation for Active Duty I (3 cr)** Prereq: AERO 331, 332, or permission of professor of aerospace studies.

Environment in which defense policy is formulated. Requisites for maintaining adequate national security forces; political, economic, and social constraints of the national defense structure; and the overall defense policy-making process.

**441L. Leadership Laboratory (0 cr)** *Successful completion of this course is required for commissioning. Pass/No Pass only.* Practical application of the principles of leadership and experience in the operation and administration of the cadet wing.

**442. National Security Affairs and Preparation for Active Duty II (3 cr)** Prereq: AERO 331, 332, and 441 or permission of professor of aerospace studies.

The armed forces as an integral element of society; the broad range of civil-military relations. The role of the professional officer in a democratic society, the socialization process within the armed services, and the military justice system.

**442L. Leadership Laboratory (0 cr)** *Successful completion of this course is required for commissioning. Pass/No Pass only.* Practical application of the principles of leadership and experience in the operation and administration of the cadet wing.

## Military Science

### Army Reserve Officers Training Corps (AROTC)

Chair: Lt. Col. Elizabeth M. Cisne, Rm 110 Military and Naval Science Building

Military science is the US Army ROTC program offered at the University of Nebraska–Lincoln. Its objective is to attract, motivate, prepare, graduate and commission students with leadership potential to serve as commissioned officers in the Regular Army or the US Army Reserve and National Guard components; to provide an understanding of the fundamental concepts and principles of military science; to develop leadership and managerial skills; to develop a basic understanding of associated professional knowledge with a strong sense of personal integrity, honor, and individual responsibility; and to develop an appreciation of the requirements for national security. Through military science classes and the ROTC program, the student who desires a commission may earn one while pursuing a degree.

The Reserve Officers Training Corps is a cooperative effort contractually agreed to by the Army and the University of Nebraska as a means of providing junior officer leadership in the interests of national security. It ensures that students educated in a broad spectrum of American institutions of higher learning are commissioned annually in the Army officer corps.

At the University of Nebraska, military science is an elective program that a student may schedule in the same manner as any other elective course. The four-year program consists of a basic course, taken during the freshman and sophomore years, and an advanced course, taken during the junior and senior years. Academic credits earned may apply toward the student's degree, depending on the discipline. The program provides leadership training designed to qualify graduates for civilian

careers in executive and management positions, or as commissioned officers in the US Army. The ROTC program promotes the mental, physical, moral, and leadership development of students.

## Curriculum

Military science is not an academic major. Students earn commissions at the same time they earn an academic degree in any discipline of their choice. Credits earned through the Army ROTC program may apply toward a student's bachelors degree. The curriculum cuts across conventional subject boundaries and becomes interdisciplinary. It encourages reflective thinking, goal seeking, and problem solving.

Basic and advanced courses in military science are listed each semester in the University's Schedule of Classes. In the basic course, you earn from 1 to 2 credits each semester; in the advanced course, 3 credits each semester. A total of 24 credit hours can be earned over the four academic years. Uniforms, textbooks, and equipment are furnished at no cost to the student.

**Leadership Training.** Leadership training is required each semester as part of the military science curriculum for those seeking a commission. It is not required of those students just taking ROTC as an academic class. This training is accomplished through a leadership laboratory conducted two hours each week and one field exercise each semester.

In the basic course, an understanding of teamwork and leadership techniques is developed. This foundation in leadership is enhanced through practical application in rappelling, land navigation and map reading, marksmanship, personal defense activities, survival swimming, military weapons, drill and ceremony, leader reaction exercises, and simulated small unit tactical exercises in field situations.

Advanced course students plan, organize, and conduct the basic course leadership training program, field exercises, and enrichment activities. Leadership and managerial skills are further developed through these activities.

## Enrollment in Military Science

Military science academic (basic) courses may be taken for credit by any University of Nebraska–Lincoln student. Military science advanced courses may only be taken by students who have contracted to earn a commission.

Students register for military science courses in the same manner as for any other accredited University course.

## Credit for Military Science

Students who have completed initial entry training in one of the armed services, Army Reserves, or Army National Guard, or attended one of the service academies may be granted credit for the basic course and enrolled in the advanced course. Additional credit for active military service or academy attendance may be granted by the professor of the Department of Military Science.

ROTC credit earned at other universities or colleges is transferable to the University of Nebraska. Students who have participated in junior ROTC in high school for three years may be granted credit for the basic course and enrolled in the advanced course. Credit is authorized for less than three years in junior ROTC upon review by the professor of the Department of Military Science.

## Obligations

There is no service obligation incurred by taking ROTC in the freshman or sophomore year (basic course). If selected for and enrolled in the advanced course, the student must agree to complete the remaining two years of ROTC and to accept a commission as a second lieutenant, if offered, upon graduation and completion of ROTC program.

ROTC graduates incur one of several obligations. As commissioned officers, they may serve on active duty for a minimum period of three months for branch qualification and the remainder of eight years in an active Reserve component. A second option is to serve on active duty followed by service in the Reserve Forces for a total service of eight years. The third option is to become a Regular Army officer with the intent of making the active Army a career.

## Financial Assistance

Four year ROTC scholarships are offered on a competitive basis to all high school seniors who plan to attend the University of Nebraska–Lincoln. Two- and three-year scholarships are available to qualified full-time undergraduate students. Each scholarship will pay all tuition, laboratory expenses, and fees, and \$1,200 for books and supplies, and, in addition, an allowance of \$300-\$500 per month (tax free) for the school year. In addition, there are two-year scholarships available for those pursuing a graduate degree.

Subsistence payment is made to all students who enroll in the advanced course. They receive \$450 (as a junior) and \$500 (as a senior) per month during the school year session tax free. In addition, a sum of approximately \$700 is received while attending the Leader Development and Assessment Course (LDAC).

## Leader Development and Assessment Course (LDAC)

Advanced course students must attend LDAC, normally during the summer between their junior and senior year. At the discretion of the professor of the Department of Military Science, attendance may be postponed until the end of the advanced course.

LDAC consists of practical application of instruction that has been given at the University. Students fire weapons, practice land navigation, and employ the tactics they have learned. Cadets are evaluated in a variety of potentially stressful leadership situations. Leadership is emphasized. Students are paid travel expenses to and from the course and, in addition, receive pay of approximately \$700 while there. All accommodations, clothing, and food are furnished.

## Two-year Program

This program accommodates students already enrolled at or transferring to the University of Nebraska who have not taken the basic course. Students enrolled in the two-year program may select one of several options. The first and best option is to successfully complete the Leader's Training Course (LTC) during the summer before entering the advanced course. Students are paid travel expenses to and from LTC. They receive approximately \$700 in pay and free room and board. No military or ROTC obligation is incurred by LTC attendance. A second option is to take both the first-year and second-year basic course programs at the same time. Any one of these options substitutes for the two-year basic course program. Upon entering the advanced course the two-year student takes the same curriculum as all other advanced course students.

## Supplementary Programs

**Simultaneous Membership Program (SMP).** Provisions of SMP permit full-time college students with two, and on a case by case basis three, years of college remaining to actively participate concurrently in the ROTC advanced course and a National Guard or Army Reserve unit.

Combined benefits include tuition assistance, Montgomery GI Bill-Select Reserve (if eligible), monthly pay, and monetary allowances during the school year. Once accepted into the program, the students enroll in Army ROTC courses right along with those courses required for degree completion. The students meet with the National Guard or Army Reserve one weekend each month and serve as a nondeployable officer trainee with a minimum pay grade of sergeant or higher. The \$450 (as a junior) and \$500 (as a senior) monthly allowance received from ROTC is tax free. Participation in SMP will not interfere with other college assistance you may be receiving.

Upon successful completion of the training program and graduation, you will be eligible for a commission as a second lieutenant in the active Army, Army Reserve, or National Guard.

**Airborne/Air Assault/Northern Warfare/ Mountain Warfare Schools.** Interested and qualified cadets may volunteer for these summer schools which take place on active army posts. These are taken for increased professional development.

**Cadet Troop Leader Training (CTLT).** For selected advanced course cadets, three to four weeks of supplementary training are available in a junior officer position within an active Army unit after attending the Leader Development and Assessment Course. Selectees are given experience with command, training, administrative, and logistical functions of a company-level unit, and exposure to the on-duty and off-duty environment of junior officers.

**Extracurricular Activity Programs.** Pershing Rifles, Ranger Challenge Team, Ranger Company, and Color Guard offer activities to enhance social, professional, and fellowship opportunities while attending the University.

**Professional Military Education Requirements (PME).** For all contract cadets there is a requirement to successfully complete an Enhanced Skills Training Program. This requirement may be waived for students with adequate ACT/SAT scores. Advanced course cadets, prior to receiving their commission, must also have completed one of the required military history courses. Courses in management and national security studies are also recommended, but are not required.

## Courses of Instruction (MLSC)

### Basic Military Science

#### 101. Foundations of Officerhip (1 cr)

Issues and competencies central to a commissioned officer's responsibilities. Understanding officership, leadership, Army values and life skills, such as physical fitness and time management.

#### 101L. Leadership Laboratory I (0 cr) *Leadership lab is required for all cadets.*

Challenging, rewarding and practical activities in military skill development. Development of confidence and learning the importance of teamwork in goal accomplishment. Rappelling, land navigation and map reading, marksmanship, survival training, personal defense activities, survival swimming, military weapons, military drill, cardiopulmonary resuscitation and first aid.

#### 102. Basic Leadership (1 cr)

Foundations of leadership: problem solving, communications, military briefings, effective writing, goal setting, physical well-being, techniques for improving listening and speaking skills and counseling.

#### 102L. Leadership Laboratory II (0 cr) *Leadership lab is required for all cadets.*

For course description, see MLSC 101L.

#### 201. Individual Leadership Studies (2 cr)

Introduction to replicating successful leadership characteristics through observations during experiential learning exercises. Record characteristics, discuss them in small group settings and use them in subsequent activities. Practice communications skills necessary for leadership roles, especially in military environments.

#### 201L. Leadership Laboratory III (0 cr) *Leadership lab is required for all cadets.*

Second-year leadership laboratory continues to be the development of confidence, military skills and a sense of teamwork. May be selected to fill leadership positions in the cadet corps. The variety of activities parallel those during the first year of the laboratory.

#### 202. Leadership and Teamwork (2 cr)

Building successful teams, methods to influence group actions, effective communications within groups, creativity in problem solving and how to motivate subordinates and peers. Using these skills in the context of military environments, such as while performing land navigation and infantry tactics.

#### 202L. Leadership Laboratory IV (0 cr) *Leadership lab is required for all cadets.*

For course description, see MLSC 201L.

### Advanced Military Science

#### HIST 303/803. United States Military History, 1607-1917 (3 cr), or

#### HIST 304/804. United States Military History Since 1917 (3 cr)

Either of these two courses satisfies the military history requirement of the advanced program. Consult the Department of History section on page 181 of this publication for course descriptions.

#### 301. Leadership and Problem Solving (3 cr)

Conduct self-assessments of leadership style, develop a personal fitness regimen, and plan and conduct individual/small unit tactical training, while testing reasoning and problem solving techniques. Direct feedback on leadership abilities.

#### 301L. Leadership Laboratory V (0 cr) Lab.

Placement in leadership positions within the cadet corps organization, providing a greater challenge while building on the confidence and skills developed during the basic course. Concentration on physical conditioning and the furthering of military skill development particularly with respect to small unit tactics and individual military weapons. Practical exercises in preparation for LDAC and the leadership responsibilities of the final year.

#### 302. Leadership and Ethics (3 cr)

Role of communications, values and ethics in effective leadership. Ethical decision making, consideration of others, spirituality in the military and Army leadership doctrine. Improve oral and written communications abilities.

#### 302L. Leadership Laboratory VI (0 cr) Lab.

Placement in leadership positions within the cadet corps organization, providing a greater challenge while building on the confidence and skills developed during the basic course. Concentration on physical conditioning and the furthering of military skill development particularly with respect to small unit tactics and individual military weapons. Practical exercises in preparation for LDAC and the leadership responsibilities of the final year.

#### 336. ROTC Internship (2-6 cr) Prereq: Permission of the professor of military science.

Grants academic credit for participation at LDAC, Ft. Lewis, Washington. Practical application of organizational management, teaching techniques, small group discussion, interpersonal communications, and the decision-making process. First aid, survival training, and physical conditioning techniques.

#### 399. Independent Study (1-3 cr) Prereq: Permission of the professor of military science. Academic credit can also be earned by successful completion of six weeks of summer leadership training at the Leader's Training Course, Ft. Knox, Kentucky.

Opportunity to expand study of the Army beyond the levels presented in programmed courses. Studies may approach military leadership, military history or contemporary issues from a broad perspective or more narrowly defined in-depth analysis.

#### 401. Leadership and Management (3 cr)

Proficiencies in planning and executing complex operations, functioning as a member of a staff and mentoring subordinates. Training management, methods of effective staff collaboration, and developmental counseling techniques.

#### 401L. Leadership Laboratory VII (0 cr) Lab.

Leadership workshop providing the opportunity to practice leadership and managerial skills through practical application. Leadership laboratory programs are developed, planned, and conducted by the students registered in these workshops.

#### 402. Officership (3 cr)

Case study analysis of military law and practical exercises in establishing an ethical command climate. Complete a semester long Senior Leadership Project that requires: plan, organize, collaborate, analyze and demonstrate leadership skills.

#### 402L. Leadership Laboratory VIII (0 cr) Lab.

Leadership workshop providing the opportunity to practice leadership and managerial skills through practical application. Leadership laboratory programs are developed, planned, and conducted by the students registered in these workshops.

## Naval Science

### Naval Reserve Officers Training Corps (NROTC)

Chair: Col. Eric T. Litaker, 103 Military and Naval Science Building  
[www.unl.edu/nrotc](http://www.unl.edu/nrotc)

Today our nation faces a variety of global challenges to its vital interests. The Naval Reserve Officer Training Corps at the University of Nebraska exists to ensure the naval arm of the American military has intelligent, well-trained leadership to

meet those uncertain challenges. Although our Nation's military academies produce many of these future leaders, the vast majority receive their education through University ROTC programs like ours. The NROTC programs allow students to select any academic study that leads to a bachelors degree and still enjoy college life in a non-military environment.

NROTC is a highly competitive program established for a single purpose: to educate men and women for service as commissioned officers in the United States Navy and Marine Corps. Students accepted into the program earn more than just money for college. NROTC students receive training and personal experience in the one quality that will always be in great demand on any resume: Leadership. Whether students are planning for a job in corporate America, or thinking of a career in the military, NROTC can give them a head start. The NROTC staff members at UNL place student success as priority one.

Today's military requires a blending of new technology, teamwork, and strong interpersonal communication skills. As junior officers, students are exposed to "leap-ahead" technologies, camaraderie, and experienced leadership that allow our military to meet the multitude of challenges it faces in the twenty-first century. Past University of Nebraska ROTC graduates are currently serving in such diverse fields as aviation, surface warfare, nuclear engineering, nursing and as U.S. Marines and Navy SEALS. They operate and employ the most advanced ships, aircraft, and submarines while leading America's best young men and women.

## NROTC Scholarship Programs

NROTC scholarship students are appointed Midshipmen, United States Naval Reserve or Marine Corps Reserve, by the Secretary of the Navy, and granted the compensations and benefits authorized by law for a period normally not to exceed four years of undergraduate study. Benefits for a period up to five years can be authorized. For details, see the Professor of Naval Science, University of Nebraska-Lincoln. During the years of college training, the Navy pays tuition, \$750 per year textbook allowance (\$375 per semester), fees of an instructional nature, and a subsistence allowance of \$250 per month for freshman, \$300 per month for sophomores, \$350 per month for juniors and \$400 for seniors. Midshipmen also receive pay during summer training periods.

NROTC Midshipmen lead the same campus life as other undergraduates. They make their own arrangements for enrollment, room and board, pursue academic studies leading to a bachelors degree, and participate in any extracurricular activities that do not interfere with their NROTC requirements. However, during drills, summer training periods, and specified naval science classes, government-furnished uniforms must be worn and all conduct must be in a military manner.

The Commanding Officer of the NROTC unit at the University of Nebraska-Lincoln is normally a Colonel in the US Marine Corps, or a Captain in the US Navy, and as the Professor of Naval Science of the NROTC unit, is also a member of the University faculty. In addition to administering the

naval science curriculum and conducting other naval functions, the Professor of Naval Science and the officers on his/her staff serve as counselors and advisers to Midshipmen on personal and academic matters, and on matters relating to their careers in the naval service.

### General Requirements for the NROTC Scholarship Programs

1. United States citizen.
2. 17 years of age by 1 September of the calendar year in which you begin the program and no more than 23 on June 30 of that year.
3. Must not reach 27 years of age by 30 June of the calendar year in which graduation and commissioning are anticipated. (Applicants who have prior active duty military service may be eligible for age waivers for the amount of time equal to their prior service up to a ceiling of 30 years.)
4. Physically qualified in accordance with Navy/Marine Corps standards.
5. High school graduate or possess an equivalency certificate.
6. Have no moral obligations or personal convictions that will prevent conscientious bearing of arms, and supporting and defending the Constitution of the United States against all enemies, foreign or domestic.

If selected for a scholarship and upon enrollment into an NROTC scholarship program, you must agree to:

1. Complete prescribed naval science courses, university courses, drills, and summer training periods.
2. Accept a commission in the Navy or Marine Corps, if offered.
3. Serve a minimum of five years in an active duty status and three years in an inactive ready reserve status.
4. Enlist in the United States Naval or Marine Corps Reserve in pay grade E-1 prior to being appointed a Midshipman. A minimum of two years of active enlisted service may be required of scholarship students who default from the terms of their NROTC contract after commencement of their sophomore year.

Scholarship students who default during their freshman year will not incur an active duty commitment unless they were active duty enlisted personnel discharged early for the purpose of accepting the scholarship.

**Four-year Scholarship Program.** Four-year NROTC scholarships are awarded annually based on a competitive selection process in which consideration is given to such factors as high school record, college board scores, extracurricular activities, and leadership qualities.

Highly qualified candidates, not selected for four-year scholarships due to limited vacancies, may compete for three-year scholarships commencing with their sophomore year contingent upon satisfying the following requirements as freshmen: a) NROTC College Program enrollment;

b) minimum grade point average of 3.0; c) positive recommendation from the NROTC unit commanding officer; and d) physically qualified in accordance with Navy/Marine Corps standards.

Men or women interested in applying for either the United States Navy or the United States Marine Corps Scholarships should contact the Professor of Naval Science at the University of Nebraska-Lincoln at (402) 472-2475.

**Two-Year Scholarship Program.** The Two-Year NROTC Scholarship Program provides tuition, textbooks, fees of an instructional nature, uniforms, and a subsistence of \$350 per month for juniors and \$400 per month for seniors during the last two years of college. If you are a non-NROTC student attending the University of Nebraska-Lincoln, or if you transfer to this university, you can take advantage of this two-year program. In any case, you should submit your application through the Professor of Naval Science at the University of Nebraska-Lincoln or through the Navy-Marine Corps processing station before 15 March of your sophomore year.

When accepted for a scholarship by a selection board, you will attend the six-week Naval Science Institute at Newport, Rhode Island, during the summer between your sophomore and junior years. This course is intended to bring you up-to-date on the NROTC curriculum you missed during your freshman and sophomore years. You will be reimbursed for travel expenses to and from Newport, and will also receive pay while studying and training during this six week period.

Upon returning to college you will be enrolled in the NROTC program and will receive full scholarship benefits of tuition and fees, textbooks, uniforms, and a monthly stipend of \$350 for juniors and \$400 for seniors through the end of your senior year.

Two-year scholarship program graduates are commissioned in the Navy or Marine Corps and assume the same obligated service requirements as four-year scholarship program students.

### NROTC College Programs (Non-Scholarship)

The Navy offers a nonsubsidized NROTC Navy-Marine Corps program for college students who wish to serve their country as officers of the Navy or Marine Corps. Applicants for this program are selected by the professor of naval science of the University of Nebraska-Lincoln from among students already in attendance or selected for admission by the University.

College Program students who join the NROTC in the same year as their contemporaries in the NROTC Navy-Marine Corps Scholarship Program take the same naval science courses, wear the same type of uniform, and graduate with them, but attend college at their own expense. They take all naval science courses offered, and, upon successful completion and graduation, are commissioned to serve on active duty for three years. (Scholarship graduates are obligated to serve five years of active duty.) College Program students also receive government-furnished uniforms and all books required for naval science courses. During the junior year,

College Program students receive \$350 per month, increasing to \$400 per month as seniors for a maximum of 20 months.

College Program students, by obtaining a professor of naval science nomination, may also gain scholarship status by competing for one of the Chief of Naval Education and Training Scholarships, normally offered semiannually.

Young men and women have a choice of two basic programs: the Four-year College Program or the Two-year College Program. Both lead to commissions as Navy or Marine Corps Officers.

## General Requirements for the NROTC College Programs

1. Acceptance for admission as a student to the University of Nebraska–Lincoln.
2. At least 17 years of age and not have reached 27 by June 30 of the year of your college graduation.
3. United States citizen.
4. Physically qualified in accordance with Navy/Marine Corps standards.
5. Possess a satisfactory record of moral integrity, academic and extracurricular activities, and manifest potential officer characteristics.
6. Have no moral obligations or personal convictions that will prevent conscientious bearing of arms, and supporting and defending the Constitution of the United States against all enemies, foreign or domestic.

**Four-Year College Program.** This is a program specifically for students entering college as freshmen. As a first-year College Program student you will receive all required uniforms and naval science textbooks. Beginning in your junior year, you will also receive a monthly tax-free subsistence allowance of \$350 as a junior and \$400 as a senior for a maximum of 20 months. In return for these benefits you will be required to successfully complete naval science courses and a few specific university courses, and attend one summer training session, normally at sea.

No active duty obligation is incurred until you begin the advanced course which is usually started in the junior year. The active duty obligation then becomes three years, with a longer obligation incurred in pursuit of some specialties.

After graduation from college and completion of your NROTC requirements, you will be commissioned an Ensign in the Navy or a Second Lieutenant in the Marine Corps, ready to serve three years or more of active duty.

When this obligation is completed you will, if you wish, be released to inactive status in the Ready Reserve. However, if you decide that the Navy or Marine Corps is the career you want to pursue, you may continue to serve as a Navy or Marine Corps officer.

**Two-Year College Program.** This program is similar to the Two-Year Scholarship Program (see above). The application is processed through the Professor of Naval Science at the University of Nebraska–Lincoln prior to March 15 of your sophomore year.

You will attend the six week Naval Science Institute, where upon completion you will be enrolled in the NROTC program and begin receiving free naval science textbooks, uniforms, and a monthly stipend of \$350 as a junior and \$400 as a senior through the end of your senior year.

Two-year college program graduates are commissioned in the Navy or Marine Corps and serve the same three years of active duty as students in the Four-year College Program.

**Marine Corps Option Program.** Students in this program become qualified for a commission as a second lieutenant in the Marine Corps. Application must be made before the junior year in college. If selected for the Marine Corps option, you will take courses pertaining to the Marine Corps during your last two years instead of the normal naval science courses. You will attend summer training at Quantico, Virginia, rather than taking shipboard at-sea training between your junior and senior years.

## Naval Science Open Curriculum

Any University of Nebraska–Lincoln student may take naval science academic courses for college credit. However, enrollment in leadership laboratories is restricted to students who are formally enrolled in the NROTC program. Texts and equipment for naval science courses are provided free. No active duty obligation is incurred.

## Integrated Studies Minor in Naval Science

It is possible to minor in naval science under the integrated studies program of the College of Arts and Sciences. All interested students enrolled in that college are eligible.

An integrated minor requires a minimum of 25 credit hours, including 10 in one department. The choice in the naval science minor is made from the list of courses that follows. Approval of the course of study must be obtained from the student's arts and sciences adviser and endorsed by a representative of the dean of the College of Arts and Sciences.

This integrated minor is available also to College of Agriculture and College of Education and Human Sciences students with the approval of their advisers.

**NOTE:** Although students may take additional naval science courses beyond the 12-credit-hour maximum, credit in these will not count toward a degree in the College of Arts and Sciences. Students majoring in the College of Arts and Sciences may only count up to 12 credit hours in naval science courses toward their degree. Courses cross listed between naval science and other departments of the College of Arts and Sciences are not included in this restriction.

Students enrolled in the NROTC program must take 17 credits in naval science subjects to earn a commission and should schedule HIST 304 and ALEC 302 at the time of asking their College of Arts and Sciences adviser for approval of their program.

- NAVS 111. Intro to Naval Science (2 cr)
- NAVS 222. Naval Ship Systems II (Weapons) (3 cr)
- NAVS 231. Naval Ship Systems I (Engineering) (3 cr)
- NAVS 321. Evolution of Warfare (3 cr)
- NAVS 322. Naval Operations & Seamanship (3 cr)
- NAVS 331. Navigation (3 cr)
- NAVS 412. Leadership & Ethics (3 cr)
- NAVS 421. Amphibious Warfare (3 cr)
- ALEC 302. Dynamics of Leadership in Organizations (3 cr)
- HIST 304. United States Military History Since 1917 (3 cr)
- Plus one of the following courses:
  - HIST 347. History of United States Foreign Relations to 1909 (3 cr)
  - HIST 348. History of United States Foreign Relations Since 1909 (3 cr)
  - POLS 363. United States Foreign Policy (3 cr)
  - POLS 426. Topics in American Public Policy (3 cr)
  - POLS 462. Security in the Post-Cold War Era (3 cr)
  - POLS 468. Organizing World Order (3-6 cr)
  - POLS 469. International Law (3 cr)

## After Graduation and Commissioning

Upon satisfactory completion of naval science and bachelors degree requirements, a Midshipman transfers from reserve status to active duty and receives a commission as an officer in the naval service. Graduates are commissioned as Ensigns in the Navy or as Second Lieutenants in the Marine Corps.

NROTC graduates have an equal competitive opportunity with their contemporaries for promotion and eventual progression to the rank of admiral in the Navy or rank of general in the Marine Corps. Promotion is earned by continued growth through professional study and demonstrated competence in assigned duties. Few professions hold greater promise for the ambitious man or woman than a career in the Navy or Marine Corps.

**Navy Graduates.** A newly commissioned Ensign is normally assigned to duty aboard a surface ship, a nuclear-powered ship or submarine, or with an aviation squadron, after a period of specialized training in the appropriate warfare specialty. The NROTC Program is a pipeline primarily to the aviation, submarine and surface communities.

The newly commissioned Ensign assigned duty aboard a surface ship can serve on a variety of classes of surface ships including aircraft carriers, cruisers, frigates, destroyers, amphibious ships, and auxiliary ships. They receive an additional year of graduate-level schooling if approved for nuclear propulsion training.

The prospective submariner enters a one-year program of graduate-level schooling in nuclear propulsion and nine weeks of submarine training. Successful completion of this program leads to duty aboard ballistic missile and attack submarines.

The prospective aviation officer enters a program of approximately two years of pilot or naval flight officer instruction. Successful completion of this training leads to designation as a naval aviator or naval flight officer.

Other specialty areas available to Navy graduates include nursing, special warfare, and medical/dental corps. NROTC graduates can apply for follow-on training at medical or dental school through a competitive process.

**Marine Corps Graduates.** All newly commissioned Marine Corps Second Lieutenants are assigned to The Basic School, Quantico, Virginia, for further training, orientation, and enhancement of basic skills. After The Basic School, several occupational fields are available for assignment, including infantry, aviation (Marine Corps officers selected for aviation receive flight training at Pensacola, Florida, along with their Navy contemporaries), artillery, tracked vehicles, engineering, communications, supply administration, and computer science, among others. Following The Basic School and training in the assigned occupational field, most Lieutenants are assigned to the Operating Forces of the Marine Corps.

## Extracurricular Activities

Midshipmen participate in all forms of campus activities that broaden their interests and provide leadership experience. Extracurricular activities available through NROTC are:

**Campus Athletics.** Intramural and intraclass programs of athletics are available to all Midshipmen.

**Drill Team.** The NROTC exhibition drill team is open to all Midshipmen. It has enhanced the reputation of NROTC by its performance throughout the state. It also competes against drill teams of other services and takes a number of out-of-state trips during the academic year.

**Navy/Marine Corps Birthday Ball.** The high point of the social season for all Midshipmen, this formal affair celebrates both the Navy and Marine Corps birthdays, and honors graduating Midshipmen.

**NROTC Field Trips.** Visits to certain Navy, Marine Corps, and other service installations throughout the country are scheduled during the school year.

**NROTC Flag Football Team.** Open to all Midshipmen, the team competes with university intramural teams as well as teams from other ROTCs and universities.

**NROTC Rifle and Pistol Team.** Both teams, which are open to all Midshipmen, offer training in the use of small arms and the experience of team competition. Weapons, ammunition, and range facilities are provided. Team trips to other universities are scheduled throughout the school year.

**NROTC Sail Team.** Open to all Midshipmen, the team competes at regattas with other ROTC sailing teams.

**Tide and Current.** NROTC newspaper staffed, edited, and published by Midshipmen.

## Courses of Instruction (NAVS)

### Courses taught by the Department of Naval Science

**100. Naval Orientation Lab (0 cr)** *Successful completion of this course is required for commissioning.*

Naval Orientation requires one and one-half hours participation per week. Continuing program offering an introduction to the various aspects of Navy life. Conducted each semester in the NROTC program.

**111. Introduction to Naval Science (2 cr)**

Introduction to seapower and the naval service. The mission, organization, regulations, and broad warfare components of the Navy and Marine Corps. Officer and enlisted rank and rating structures; training; promotions; naval customs and courtesies; ship nomenclature; leadership and discipline. Throughout the course students are apprised of the major challenges facing today's naval officer.

**222. Naval Ship Systems II (Weapons) (3 cr)** Prereq: MATH 101 or permission of department chair.

Concepts of naval weapons systems, automatic control systems, and communication systems are explored. Components of the weapon system, including sensors and detection systems, tracking systems, computational systems, launching devices, and projectiles. Once the weapon systems have been defined, they are analyzed solving classic fire control problems and in more modern "total system integration." Command, control, and intelligence (C4ISR) and the impact that computers play in this area. Student presentations are utilized to help them understand how the theory presented is used in modern naval weapons system.

**231. Naval Ship Systems I (Engineering) (3 cr)**

Basic considerations for hull design for naval vessels, related to buoyancy, equilibrium, stability, and the effects of flooding on the design characteristics of naval vessels; basic principles and components of a ship's propulsion system and their relation to all other ship's systems; and the interrelationships and interdependency of all of a ship's systems to the successful mission of a ship.

**321. Evolution of Warfare (3 cr)** Prereq: Junior or senior standing, or permission of department chair. *Open to all students and required for US Marine Corps students.*

History of warfare and its evolution from the beginning of recorded history to the present.

**322. Naval Operations and Seamanship (3 cr)** Lec 3. Prereq: NAVS 331.

Principles essential for an understanding of and a working capability in both safe navigation and decision making. Comprised of a detailed and applied analysis of relative motion, ship handling, and "rules of the sea."

**331. Navigation (3 cr)** Lec 2, lab 1. Prereq: Math 102 or 103.

Theories, computations, practices, and techniques of terrestrial and celestial navigation. The theory involved in advanced electronic navigation systems.

**412. Leadership and Ethics (3 cr)**

Equips the Navy NROTC student with the skills and abilities needed for competence as a commissioned officer. Theory of leadership and management and practical application. Professional ethics and law within the scope of the military environment. Capstone course builds upon and focuses the managerial and professional competencies developed during prior at-sea training and naval science courses.

**421. Amphibious Warfare (3 cr)** Prereq: Junior or senior standing, or permission of department chair. *Open to all students and required for US Marine Corps students.* History, development, and role of amphibious warfare. Doctrine for planning and execution of amphibious operations.

## Courses Taught by Other Departments

ALEC 302. Dynamics of Leadership in Organizations (3 cr)

HIST 304. United States Military History Since 1917 (3 cr)

Calculus—Two courses of integral calculus. (Navy scholarship)

Physics—Two courses of calculus-based physics. (Navy scholarship)

Six credit hours of English concentrating in grammar and composition.

A course studying world cultures and different regions of the world.

Three credit hours in a course concerning national security policy or military history.



# University Libraries

Joan Giesecke, D.P.A., Dean of Libraries  
Nancy Busch, Ph.D., Associate Dean  
Elaine Westbrooks, M.L.I.S., Associate Dean

## About the Libraries

### Mission

The mission of the University Libraries, as an integral part of the University of Nebraska-Lincoln's diverse academic community, is to provide access to information through the teaching, interpretation, acquisition, organization, and preservation of information resources in all forms, to the UNL community, the state of Nebraska, and beyond.

The mission is accomplished by fostering a forward-looking environment for the creation, dissemination, and utilization of knowledge, applying the principles of information management.

### The Libraries Today

The University Libraries, Nebraska's only comprehensive research library, is comprised of Love Library and six branch libraries where traditional library services are blended with today's digital innovations. In the branches, students will find specialized collections on subjects such as: Architecture, Engineering, Geology, Mathematics, and Music. Agricultural materials can be found at the C.Y. Thompson Library on the East Campus. Love Library, the six branch libraries and the Marvin and Virginia Schmid Law Library, offer both in-house and remote access to a robust on-line infor-

mation service called the Innovative Research Information System (IRIS), located on the Internet at [iris.unl.edu](http://iris.unl.edu).

IRIS currently includes the Libraries electronic catalog, general and specialized article indexes, full text electronic journals, electronic books, statistical databases, and a host of Internet resources. In addition to general reference and research assistance, the Libraries provide basic library instruction, specialized bibliographic instruction, interlibrary loan and document delivery services, and full departmental liaison services.

"Ask a Question" is a service that lets students, faculty, and community members email a question to, or chat interactively with, our professional library staff. C.Y. Thompson and Love Library have wireless networking and laptop computers are available for check out. Computer labs are located in Love and C. Y. Thompson libraries, providing access to library resources, the World Wide Web, word processing, electronic mail, and other resources.

### History

When the University of Nebraska was established in 1869, the Charter included a provision for "an annual appropriation for books for a general library."

In 1941, construction began on a new library building made possible by a gift from Don L. Love, former Lincoln mayor and businessman. Love Library opened in 1945 and all the volumes held in storage and many of the departmental collections were consolidated with the main collection in the new building.

Throughout the 1950s and 1960s, library collections continued to grow rapidly and the practice of shifting materials to storage areas again became expedient. In 1975 the Love North addition opened. The 2,000,000th volume, a Shakespeare first folio, was added in 1991. The collection now exceeds 3,000,000 volumes.

### Courses

Library 110 is intended for incoming first-year students as part of the Comprehensive Education Program.

### Grading

#### Pass/No Pass

A grade of pass will be awarded upon successful completion of the course. A grade of no pass will be given to those who do not successfully complete the course. The N (no pass) grade does not contribute to the student's GPA.

### Grading Appeals

A student who feels that he/she has been unfairly graded may take the following sequential steps:

1. Talk with the instructor concerned. Most problems are resolved at this point.
2. Talk to the instructor's department chair.

## Courses of Instruction (LIBR)

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**110. Introduction to Library Research** (1 cr) *A seven-week independent learning course.*

Practical understanding of libraries, their organization, tools, and services. Effective strategies for accessing information and performing library-based research.

[IS] **110A. Introduction to Agriculture, and Natural Resource Systems** (AGRI, NRES 103) (1 cr)

For course description, see AGRI 103.



# Programs on the UNL Campus Administered by Omaha Units

## College of Public Affairs and Community Service

### University of Nebraska at Omaha Administered

B. J. Reed, Ph.D., Dean

### About the College

The College of Public Affairs and Community Service (CPACS) on the Lincoln campus offers all undergraduate course work required for the bachelor of science degree in criminal justice. A minor in criminal justice is also offered in Lincoln. Students may pursue the bachelor of science degree in social work as pre-social work majors on the Lincoln campus but must complete the professional social work program (junior and senior years) on the Omaha campus. The College of Public Affairs and Community Service also offers course work leading to a certificate or minor in gerontology.

### Careers

**Criminal Justice.** The School of Criminology and Criminal Justice provides its students with the foundation for entering many diversified criminal justice related careers including the courts, law, corrections and law enforcement. The school

curriculum is composed of a broad range of ideas and interests, including courses in organization and administration, statistics, research methods, law enforcement, corrections, criminology, courts, juvenile delinquency, and law, as well as various special topics. Through the internship program, students can obtain work experience within various criminal justice agencies.

**Gerontology.** The career objective of the majority of those persons specializing in gerontology is to enter into or to continue in a profession where services are provided to the aged. Most graduates of the gerontology department either are direct service providers or plan and administer programs in which others provide services to the elderly.

**Social Work.** Social work prepares students for professional careers in human services effecting social change and improving human conditions. Social workers are employed in social welfare agencies, alcohol and drug dependency programs, nursing homes, health/mental health agencies, programs for the developmentally disabled and marriage and family counseling services. Social work courses investigate social policy, health care and human service systems, mental health, human development and functioning, ethnic issues, and provide students with the practice skills for working with diverse clientele. Students receive extensive work experience through practicum courses in their senior year. The BSSW is a solid foundation for pursuit of a higher level of professional competence through graduate social work education. The undergraduate degree

qualifies a graduate as a Certified Social Worker (CSW) in the State of Nebraska. Other states with licensure and certification of social workers would also recognize this degree for such licensure or certification.

### Academic Advisement

Students are responsible for knowing and completing all requirements of their chosen degree program. Please refer to "Students Responsibilities in Academic Advising" on page 12 of this bulletin.

The aim and purpose of academic advising is to assist students in career planning, meeting the requirements of the degree program and in interpreting College policy regarding academic requirements.

Students should see an adviser whenever questions arise concerning their academic programs. Students are encouraged to seek advisement with their assigned academic adviser at least two times per year, particularly, when registering for the senior year.

### Dean's List

Students enrolled in the College of Public Affairs and Community Service who maintain a grade point average of 3.5 or better while carrying 12 graded hours or more will earn the distinction of being placed on the Dean's Honor List at the end of each semester.

## Admission to the College

Students who have been admitted to the University may apply for entrance to the College of Public Affairs and Community Service during initial registration by indicating their preference in the appropriate place on the University Application for Admission form.

Students who wish to transfer into the College from one of the Schools or Colleges within the University must request permission from the Dean's Office and the department or school offering the student's intended major. A minimum cumulative grade point average (GPA) of 2.5 is required to transfer into the College.

### Requirements for the Bachelor of Science Degree

**Total Hours.** Each candidate must present a total of at least 125 semester hours of college credit to meet graduation requirements.

**Quality of Work.** Each candidate for the degree must attain a cumulative grade point average of at least 2.0. A minimum grade of at least C- must be earned in all required courses within the major, unless a higher grade is designated by the department/school. All grades reported by the faculty to the registrar become a part of the student's permanent record and are included in the computation of the grade point average, even though some of these grades may be for work done in excess of the 125 hours required for graduation.

**Transfer of Courses.** The transfer of D grades in nonmajor courses are accepted only from within the University of Nebraska system. Students from other institutions must present a grade of C- or above for all course work.

**Residence.** Thirty of the last 36 hours required for the degree must be registered for and carried within the University of Nebraska system.

**Major Field.** Each student must present a major including 15 or more credit hours of upper division work designated as appropriate by the faculty of the department in which enrolled. Individual departments/schools should be consulted for the minimum number of upper division hours required.

**Acceptability of credits.** The student should refer all questions concerning the acceptability of credits earned in programs such as Cooperative Education and Credit by Examination to the department in which enrolled. Credit earned in courses below the 100 level may not be applied toward the degree offered by the College of Public Affairs and Community Service.

**General Education.** Each student must satisfy the UNOmaha general education core requirements.

**Prerequisite Courses.** Completion of a course within the major with a grade below a C- will not be considered as having fulfilled prerequisite

requirements for additional courses taken in the major field of study. A higher grade may be designated by the department/school.

## College Academic Policies

### Choice of Catalog Policy

A student registering in the College of Public Affairs and Community Service for the first time may, except for limitations described below, complete work for the degree according to the requirements of 1) the catalog in effect the year the student enters CPACS or 2) the catalog current at the time the student applies for the degree.

Students entering the College for the first time in the summer will be subject to the catalog for the academic year immediately following.

Students formerly in a CPACS program who drop out of the College for one year must complete requirements of the catalog current at the time of readmission.

Failure to complete the requirements for the degree within seven years after the date the student first enters the College will subject the student to graduation under the requirements of a later catalog to be approved by the Dean.

The College reserves the right to institute and make effective, after due notice, during the course of a student's work toward a degree, any new ruling which may be necessary for the general good of the College and to substitute courses currently offered for those no longer offered.

### Grade Appeals Procedure

Students who wish to appeal a grade which they feel was capriciously or prejudicially given shall first discuss the matter with the instructor within 30 days of the final course grade being posted. If the matter is not resolved, the student must meet with the department/school chairperson. If a satisfactory agreement cannot be reached, the student must appeal, in writing, to the department/school curriculum committee. If a satisfactory agreement cannot be reached, the student may submit a written appeal to the Office of the Dean within 20 working days of the exhaustion of the departmental procedures.

The Committee on Academic Standards and Curriculum for the College of Public Affairs and Community Service is the official body for handling the appeal.

In the event that the instructor is unavailable for handling a grade complaint, the student will meet with the Department Chair/School Director and the Dean to determine the most appropriate course of action agreeable to all parties.

Copies of the CPACS Procedures for Student Grades and Suspension Appeals are available from the Chair of the Committee on Academic Standards and Curriculum for the College and the Office of the Dean.

## Degree Audit and Application for Degree

During the second semester of their junior year, or after completing approximately 89 hours, students should apply for an audit of their academic records to be sure that all requirements will be met before the anticipated date of graduation. Criminal justice majors may request the audit at the CPACS Office, 310 Nebraska Hall.

Criminal justice majors must also file an application for graduation at the CPACS Office either just prior to or early in the semester they intend to graduate. Failure to meet the published deadline may delay graduation until the next semester.

## Degree Programs and Areas of Study

### Criminology and Criminal Justice

**Interim Director:** Dr. Candice Batton

**Associate Director for the Lincoln Program:** Dr.

Colleen Kadleck

**Coordinator Adviser:** Karen Fulton, 310 Nebraska Hall, 472-3677

**Faculty:** Anderson, Batton, Brennan, Clinkinbeard, Crank, G. DeLane, M. DeLane, Eskridge, Hoffman, Hughes, Jacobs, Kadleck, C. Marshall, Meier, Ogle, Sample, Savolainen, Simi, Trammell, Wakefield

Although the bachelor of science in criminal justice degree can be earned in its entirety on the Lincoln campus, the degree is granted by the University of Nebraska at Omaha. School policies and requirements applicable to students seeking the BSCJ degree are the same on both campuses.

**Freshmen Declaring Criminal Justice.** The first 45 hours of course work toward the bachelor of science in criminal justice is defined as the pre-criminal justice curriculum. Entering freshmen who declare criminal justice as their major must complete all of the 45 hour pre-criminal justice curriculum with a minimum grade of C- in their criminal justice courses. These courses must include:

CRIM 101 (3 hrs)

CRIM 251 (3 hrs)

CRIM 203, 211 or 221 (6-9 hrs)

ENGL 101,150, 151, 254, 258 (6 hrs)

MATH 101 (3 hrs)

Students are encouraged to fulfill the remaining 21-24 hours with course work from their general distribution requirements.

Students seeking entrance into the upper division criminal justice program must apply to the School of Criminology and Criminal Justice. Students may apply with fewer than 45 hours if they are enrolled for the remaining hours during the semester in which they make application. In such cases, students may be granted admission contingent upon completion of the hours with a minimum grade of C- in their criminal justice courses.

### Transfer Students Declaring Criminal Justice.

Students wishing to transfer from another institution or department within the University of

Nebraska must have a 2.5 cumulative grade point average to declare pre-criminal justice. Transfer students must complete the pre-criminal justice curriculum stipulated above and apply for admission to the School of Criminology and Criminal Justice before being admitted to the upper division criminal justice program. Students wishing to transfer are encouraged to contact the school for more details on the transfer policy.

The policies set out above are intended to apply to all students who seek admission to the upper division criminal justice program. For good cause shown, the school has the discretion to make exceptions to the admission policy.

Application forms may be obtained at the School of Criminology and Criminal Justice office.

## School Restrictions

- The BSCJ degree requires the completion of 125 semester hours of credit. A minimum of 30 of the last 36 credit hours must be earned by the student in residence in the College of Public Affairs and Community Service, at either the Omaha or Lincoln campus. Summer independent study courses are not considered in residence.
- At least 21 hours of criminal justice must be taken at the University of Nebraska, on either the Omaha or Lincoln campus.
- A minimum of 45 credit hours must be earned in upper division (300/400-level) courses. At least 21 of these upper division hours must be taken in the School of Criminology and Criminal Justice.
- A maximum of 25 credit hours from nontraditional or nonclassroom courses (correspondence, independent study, Internet mediated) may be applied toward the BSCJ degree.
- A maximum of 12 credit hours of departmental independent study or internship courses may be applied toward the BSCJ degree. Of these, no more than 6 hours from one department and no more than 6 hours from another institution.
- A maximum of 30 hours from any one department may be applied toward the BSCJ degree.
- A maximum of 24 hours may be taken Pass/No Pass and none of the 39 hours required for the criminal justice major may be taken Pass/No Pass (excluding CRIM 397 Internship).
- Credit for basic military training or law enforcement training is not applicable to the BSCJ degree.

## Specific Course Requirements—Bachelor of Science—Criminal Justice Degree

**A. English Composition (9 hours).** This requirement is normally filled by taking courses from the following group: ENGL 101, 150, 151, 250, 252, 254, 258, or 354. At least 3 credit hours must be in courses 200 level or higher. Acceptable alternatives must be approved by the student's adviser.

**B. Social Science (12 hours).** Courses will be selected from the departments of economics, gerontology, history, political science,

public administration, psychology, educational psychology (451, 463), sociology, social work, anthropology, nonphysical geography and child, youth and family studies 160, 270, 271, 280 (see adviser for upper-level options). No more than 6 hours from any one department may be used to meet this requirement.

**C. Natural Sciences and Mathematics (12 hours).** Students must complete MATH 101 College Algebra or higher. Each student will be required to complete a minimum of one laboratory course from the following disciplines: astronomy, biological sciences, chemistry, entomology, forensic science (FORS 120), geology, meteorology, nutrition (NUTR 131), and physical geography (GEOG 155). Additional courses may be selected from any of the above disciplines or CSCE 101 or higher or a higher level math.

**D. Humanities (12 hours).** Art and art history, classics, communication, English literature, foreign languages, journalism, music, philosophy, religion, theatre. Not more than 8 hours may be applied from any one department. Each student must complete one 3-hour course in oral communication to be selected from COMM 109, 209, 212, or 286.

**E. Statistics (3 hours).** Each student must complete one 3-hour course in basic statistics. Only one of the following courses may apply to the degree. (CRIM 300 or EDPS 459 is recommended, however, ECON 215, STAT 218 or SOCI 206 will also fulfill the requirement.)

**NOTE:** CRIM 300 will not apply toward the 39 hours of required criminal justice courses.

**Criminal Justice Requirements (39 semester hours).** All candidates for the BSCJ degree must complete CRIM 101 Survey of Criminal Justice, CRIM 251 Research Methods, and select 6-9 hours from CRIM 203 Police and Society, CRIM 211 Criminal Court System, and CRIM 221 Survey of Corrections. After admission to the Upper Division Program students must complete a minimum of 21 hours of upper division criminal justice courses including CRIM 335 Criminology and CRIM 351 Criminal Procedure.

A minimum grade of C- is required in criminal justice courses used as part of the 39-hour major requirement.

Students are not required to complete an internship (CRIM 397), however, up to 6 hours of internship may be included in the program of study. Participation in the internship requires admission to the upper-division criminal justice program, 75 earned hours and a GPA of 2.5.

Students must register for and complete CRIM 499 (Senior Assessment) in the semester in which they plan to graduate.

**NOTE:** Credit toward the degree may be earned in only one of the following: CRIM 251 or SOCI 205, CRIM 337 or SOCI 311, CRIM 413 or SOCI 474.

**Area of Concentration (18 hours).** Students will select an area of concentration with their advisers. At least 12 hours must be completed in upper division courses (300/400 level).

## **Elective Requirements (20 semester hours).**

Students may select electives after consultation with their adviser. Elective courses may include nonrequired criminal justice courses.

**Cultural Diversity.** Each student must complete 6 hours of course work dealing with cultural diversity. A minimum of 3 hours must include US racial or Hispanic minority groups to be selected from CRIM 338; or ANTH/ETHN 351, 352; ENGL/ETHN 244, 245B, 245D, 445; ETHN 100, 200, 201; HIST/ETHN 241, 306, 309, 357, 411, or 465; POLS/ETHN 238; PSYC/ETHN 310 or 425; SOCI/ETHN 217, 218 or 481; TEAC/ETHN 330. The remaining 3 hours can be satisfied with a 3-hour course in minority studies, women's studies or course work with an international or foreign focus. These courses may be applied toward the appropriate group requirement. The cultural diversity requirement may be completed within the 39-hour major by including CRIM 338 and 3 hours from CRIM 339, 475, or 471.

## Requirements for the Minor in Criminal Justice

The requirements to earn a minor in criminal justice will consist of a minimum of 18 credit hours to include CRIM 101 Survey of Criminal Justice (3 cr), a minimum of two of the three CRIM 203 Police and Society, CRIM 211 The Criminal Court System, CRIM 221 Survey of Corrections (6 cr), and a minimum of 9 credit hours of upper level (300/400) criminal justice courses (excluding CRIM 300 Applied Statistics). An overall C average in courses applied to the minor is required and all courses must be taken for a letter grade (not Pass/No Pass). In addition, all 9 credit hours of upper division criminal justice course work must be taken in residence at the University of Nebraska.

## Courses of Instruction (CRIM)

### **(ACE 6) 101. Survey of Criminal Justice (3 cr)**

The justice process and the criminal justice system in general. Concepts of crime, deviance and justice, and general theories of crime causality. Individual rights in a democratic society and the legal definitions of various crimes. Law enforcement, judicial, juvenile justice and corrections subsystems explored and a number of reform proposals presented.

### **203. Police and Society (3 cr) Prereq: CRIM 101.**

The role of the police in American society. Origins of policing, the nature of police organizations and police work, and patterns of relations between the police and the public.

### **211. The Criminal Court System (3 cr) Prereq: CRIM 101.**

Analysis of the structure and function of the criminal court system in the United States, including the roles of prosecutor, defender, judge, jury, and court administrator. Issues confronting the system considered from historical, philosophical, sociological, and psychological perspectives. Ideals of the system compared with actual functioning and court reform proposals.

### **221. Survey of Corrections (3 cr) Prereq: CRIM 101.**

History and evolution of the corrections process. Covers all aspects of institutional and community-based corrections.

### **251. Research Methods (3 cr) Prereq: CRIM 101 or permission.**

*CRIM 251 and SOCI 205 cannot both be applied toward the degree.* Introduction to the principles, methods and techniques of empirical social research.

**300. Applied Statistics and Data Processing in the Public Sector** (3 cr) Prereq: MATH 101 or permission. Credit toward the degree may be earned in only one of: *CRIM 300 or ECON 215 or EDPS 459 or SOCI 206 or STAT 218*.

Basic statistics of public sector research and public administration decision making. Data processing techniques as they relate to statistical analysis and on understanding the proper application of statistics.

**301. Philosophy of Criminal Justice** (3 cr) Prereq: Students must be admitted into upper division CJUS program, or permission of instructor, or have a minor declared in CJUS. Philosophical examination of justice and its administration. A richer understanding of the conceptual foundations of justice.

**331. Criminal Law** (3 cr) Prereq: Students must be admitted into upper division CJUS program, or permission of instructor, or have a minor declared in CJUS.

The means by which society attempts to use criminal law to prevent harm to society. Acts which are declared criminal and the punishment prescribed for committing those acts. Philosophies and rationales that have shaped current day substantive criminal law. English Common Law and the historic evolution of substantive criminal law from its early origins.

**335. Criminology** (3 cr) Prereq: Students must be admitted into upper division CJUS program, or permission of instructor, or have a minor declared in CJUS.

General survey of the nature of causes of crime and efforts of the criminal justice system to predict, prevent, modify, and correct this behavior.

**337. Juvenile Delinquency** (3 cr) Prereq: Students must be admitted into upper division CJUS program, or permission of instructor, or have a minor declared in CJUS. *CRIM 337 and SOCI 311 cannot both be applied toward the degree*.

How delinquents and juveniles in need of supervision are handled within the juvenile justice system. The nature and extent of delinquent behavior status offenses, child abuse and neglect; theories of delinquency and their implications for intervention; cultural and social factors related to delinquency; as well as the philosophy by and functioning of the juvenile justice system.

**338. Minorities and Criminal Justice** (3 cr) Prereq: Students must be admitted into upper division CJUS program, or permission of instructor, or have a minor declared in CJUS.

Survey of minority groups and criminal justice in the United States. Racial minorities as victims of crime, as offenders, as defendants, and as criminal justice professionals.

**339. Women, Crime and Justice** (3 cr) Prereq: Students must be admitted into upper division CJUS program, or permission of instructor, or have a minor declared in CJUS.

Women's experiences as victims of crime, as offenders, as defendants, and as criminal justice professionals.

**351. Criminal Procedure** (3 cr) Prereq: Students must be admitted into upper division CJUS program, or permission of instructor, or have a minor declared in CJUS.

Legal aspects of the investigation and arrest processes as well as the rules governing the admissibility of evidence in court.

**397. Internship in Criminal Justice** (3 cr) Prereq: Admission into upper division criminal justice program, 75 credit hours completed, GPA of 2.5 and permission. *May be repeated to a maximum of 6 hours*.

Job-related experience in a criminal justice agency and permission to enroll must be received from the student's adviser each semester.

**403. Organization and Administration** (3 cr) Prereq: Admission into upper division CJUS program, or permission of instructor, or have a minor declared in CJUS.

Contemporary concepts, principles, and theories of organization and administration as they relate to criminal justice agencies. Historical development and modern practices of public policy.

**406. Criminal Justice Ethics** (3 cr) Prereq: Completion of the Pre-Criminal Justice curriculum, and CRIM 351 or permission or permission of the instructor.

Ethical issues that arise in the three major areas of criminal justice: police, courts, and corrections. General philosophical theories of ethics as well as Codes of Ethics that operate to control the institutional and personal behavior of police, courts, and correctional systems.

**413. Sociology of Deviant Behavior** (3 cr) Prereq: Students must be admitted into upper division CJUS program, or permission of instructor, or have a minor declared in CJUS. *CRIM 413 and SOCI 474 cannot both be applied toward the degree*.

Investigates the etiology of many forms of norm-violating conduct. Rule-breaking behavior as defined by the criminal statutes. Cultural differences accomplished by providing both theoretical and empirical evidence of various behavior patterns of individual, family, and group life-styles on deviant behavior.

**421. Institutional Corrections** (3 cr) Prereq: CRIM 221 and admission to upper division CJUS program, or permission of instructor, or have a minor declared in CJUS.

In-depth analysis of the history and operation of prisons and jails in the United States and other countries. Management and operation of prisons and jails from the perspective of both employees and incarcerated persons.

**431. Correctional Law** (3 cr) Prereq: CRIM 351 and admission to upper division CJUS program, or permission of instructor, or have a minor declared in CJUS.

Analysis of the emerging law of corrections and prisoners' rights. The applicability of various constitutional guarantees to the correctional process including plea bargaining, issues surrounding cruel and unusual punishment, the right to treatment, the right not to be treated, and the parole process.

**435. Community-Based Corrections** (3 cr) Prereq: CRIM 221 and admission to upper division CJUS program, or permission of instructor, or have a minor declared in CJUS.

For advanced students with a special interest in the correctional process as applied in a community setting. Innovative community-based strategies for dealing with the offender as well as on the processes of probation and parole.

**450. Drugs and Crime** (3 cr) Prereq: Students must be admitted into upper division CJUS program, or permission of instructor, or have a minor declared in CJUS.

Socially constructed nature of drugs and drug policy, focusing on the variety of ways drugs and crime are connected and the socio-historical context of contemporary US drug policy.

**451. Violence** (3 cr) Prereq: Students must be admitted into upper division CJUS program, or permission of instructor, or have a minor declared in CJUS.

A survey of the nature and extent of violence. The focus is on patterns of violence across social groups, the causes and correlates of violence and violent behavior, and programs/policies geared toward violence prevention and reduction.

**471. Comparative Criminal Justice Systems: England** (3 cr) Prereq: Students must be admitted into upper division CJUS program or have a CJUS minor declared and permission of instructor. *CRIM 471 is not open to nondegree students*.

Analyzes the dynamics of criminality and the social response to criminality across countries. Differences in crime and justice between developed and developing countries and between socialist and capitalist nations.

**475. International Criminology and Criminal Justice** (3 cr) Prereq: Students must be admitted into upper division CJUS program, or permission of instructor, or have a minor declared in CJUS.

Analyzes the dynamics of criminality and the social response to criminality across countries. Differences in crime and justice between developed and developing countries and between socialist and capitalist nations.

**476. Terrorism** (3 cr) Prereq: Students must be admitted into upper division CJUS program, or permission of instructor, or have a minor declared in CJUS.

Development of an understanding of terrorism as a political crime. Examines social, political, and psychological aspects of this behavior.

**477. Organized Crime** (3 cr) Prereq: Students must be admitted into upper division CJUS program, or permission of instructor, or have a minor declared in CJUS.

Traces the origins and historical development of the activities that have come to be known as "organized crime." These crimes are some of the most dangerous to American society and range from the commonly known offenses of gambling, racketeering, and narcotics trafficking to the more subtle and sophisticated, less understood but equally serious, crimes of extortion, commercial bribery, and political corruption.

**478. White Collar Crime** (3 cr) Prereq: Students must be admitted into upper division CJUS program, or permission of instructor, or have a minor declared in CJUS. Illegal acts committed by nonphysical means and by concealment or guile, to obtain money or property, to avoid the payment or loss of money or property, or to obtain business or personal advantage.

**480. Special Problems in Criminal Justice** (3 cr) Prereq: Students must be admitted into upper division CJUS program, or permission of instructor, or have a minor declared in CJUS. Analysis of contemporary special problems in the broad spectrum of criminal justice.

**495. Independent Studies** (1-3 cr, max 6) Prereq: Admission into upper division criminal justice program, 24 hours of criminal justice credit, and permission.

Faculty-guided research in an area of mutual interest to the student and the instructor. Students are responsible for selecting the area of inquiry prior to contacting the instructor.

**497H. Senior Honors Project/Thesis** (3-6 cr)

Independent research project supervised by department/school faculty.

**499. Senior Assessment** (0 cr) *Students must register for this course in the semester in which they plan to graduate. Graduating seniors must take a comprehensive exam and participate in an exit interview.*

Part of the department's Student Outcomes Assessment effort. Designed to monitor the department's performance and to identify changes needed.

## Gerontology

**Chair:** Dr. Julie Masters, 554-3953

**Lincoln Campus:** Dr. Julie Masters, 472-0754

**Faculty:** Holley, Kelly, Kercher, Kosloski, Masters, Thorson

Undergraduates may earn a certificate in gerontology by completing 15 hours of specified course work plus a one-semester practicum. Although an undergraduate major in gerontology is not offered, the certificate program may be used as a minor or concentration within several degree programs earned through other University departments.

Courses that meet the gerontology requirement are taught by gerontology department faculty as well as related faculty in other UNL and UNO departments. Students should consult the Department of Gerontology for the appropriate selection of courses.

Application materials for admission to the Gerontology Certificate Program can be obtained either from the Department office, 310 Nebraska Hall (472-0754); or CPACS Building 211 on the Omaha campus (554-2272).

## Specific Requirements—Certificate in Gerontology

**Course Work.** All undergraduates who wish to earn the certificate in gerontology must complete a minimum of 15 semester hours of gerontology courses, with a core of strongly recommended courses, including Introduction to Gerontology (GERO 200), Psychology of Adult Development and Aging (GERO 446), and Programs and Services for the Elderly (GERO 467). The remaining course work will be agreed upon between the student and his or her gerontology adviser in an individually-designed program of study.

**Practicum.** A one-semester field placement is also required. Students in most cases will earn 3 hours of academic credit for this practicum by registering for GERO 494 (Practicum). It may be possible to coordinate this experience with field placement requirements in other departments (e.g., social work or child, youth and family studies), but in all cases such arrangements must have the prior approval of the gerontology departmental practicum coordinator.

## Minor in Gerontology

A minor in gerontology consists of 18 credit hours. Nine hours of core courses are required with the remaining 9 hours to be selected by the student with advice and support of the academic adviser for the department.

The core courses required for the minor will include the following:

GERO 200 Intro to Gerontology  
GERO 446 Psychology of Adult Development & Aging

GERO 467 Programs & Services for the Elderly  
GERO 455 Health Aspects of Aging (while not required, will be strongly encouraged for those seeking a career in health care)

Students may also select a course offered in another department that has at least 75% of its focus on the aging experience. This course can be counted toward a minor in gerontology. A practicum will not be required of students pursuing a minor. The student must earn an overall average of "C" (2.0) in courses for the minor.

**Administration of the Program.** The UNO Department of Gerontology administers the certificate in gerontology program for all campuses of the University of Nebraska under an agreement approved by the Board of Regents in 1977. Students at UNL, UNO, UNK, and UNMC are thus able to earn the certificate as part of their academic work at the University of Nebraska.

Students who wish to earn the certificate must go through a formal admissions procedure; admissions materials are available at the offices named above.

Undergraduates who begin work toward the certificate late in their academic program may find it difficult to schedule the necessary course work and practicum hours prior to graduation (this is especially true for BSN candidates in the College of Nursing). It is acceptable, and in many cases desirable, to complete the classroom portion of work toward the certificate while an undergraduate, receive the bachelors degree from one's major department, and then complete work on the practicum during the semester after graduation as an unclassified postgraduate. Gerontology advisers maintain a degree of flexibility in order to work with students who have special needs.

## Courses of Instruction (GERO)

### (ACE 6) 200. Introduction to Gerontology (3 cr)

Introduction to social gerontology and human development in later life; emphasis on important elements of aging, such as socialization, family interaction, retirement, physical and psychological aging, and perceptions of older persons in contemporary society.

### 307. Death and Dying (3 cr)

Interdisciplinary survey of literature in the field of thanatology with an emphasis on working with the older patient and his or her family.

### 410/810. Educational Gerontology (EDPS \*810) (3 cr)

Introduction to the field of education for and about the aging. Institutions and processes of education will be analyzed to determine their relationships and value to persons who are now old and those who are aging.

### 435. Issues in Aging (3 cr) Prereq: Junior or senior standing.

For students in gerontology and in other fields who are interested in a humanistic approach to understanding significant issues which affect the lives of older people.

### 446. Psychology of Adult Development and Aging (PSYC 446) (3 cr) Prereq: PSYC 181 or GERO 200.

Major social and psychological changes that occur as a function of aging. Both normal and abnormal patterns of developmental change including their implications for behavior.

### 447. Mental Health and Aging (3 cr) Prereq: Junior or senior standing.

Mental health needs of older adults. Identifying both positive mental health and pathological conditions. Treatment interventions effective with older adults and their families.

### 450. Legal Aspects of Aging (3 cr)

Consideration of the legal concerns which are likely to arise as people age. Includes introduction to the American legal system and emphasis on underlying legal concepts and issues of special importance to older persons.

### 451. Long-term Care Administration (3 cr)

Investigation of the broad range of policy issues, theoretical concerns, and practical management strategies influencing the design, organization, and delivery of long-term care services.

### 455. Health Aspects of Aging (3 cr)

Psychological, sociological, and physiological factors that influence the health of the aging, with particular emphasis given to biological changes that have implications for disease and health disorders.

### 459. Disorders of Communication in Older Adults (3 cr)

Familiarizes the student with the identification and symptomatology, basic assessment and intervention strategies associated with disorders of communication affecting older adults and geriatric patients. Beneficial to students majoring in gerontology, or speech pathology, as an elective course, or as a professional enrichment course for persons working in these or related fields.

### 467. Programs and Services for the Elderly (3 cr) Prereq: Junior or senior standing.

Historical overview of programs for the elderly, to examine the national policy process as it relates to the older American, and to review the principles and practices relative to the existing national programs for the aged

### 469. Working with Minority Elderly (Social Work 404) (3 cr) Prereq: Junior or senior standing.

Interdisciplinary course designed to provide the student with knowledge of the differing status, attitudes, and experiences of the elderly within four major minority groups and to examine various service systems and practice models in terms of their relevance and effectiveness in meeting needs of the minority elderly.

### 475. Mid-life Career Change and Pre-Retirement (3 cr)

Examination of mid-life as it applies to the concept of second careers, existing resources, and the future of second careers; and the concept and practical implications of preretirement planning.

### 485. Hospice and Other Services for the Dying Patient/Family (Social Work 485) (3 cr) Prereq: Junior or senior standing.

Involves students in the recognition of fears, concerns, and needs of dying patients and their families by examining the hospice concept and other services available in our community. Factual information, readings, professional presentations, films, and experiential exercises are offered to aid the student in understanding that hospice is an alternative to the traditional medical model so that when the "cure" system is no longer functional, then the "care" system, hospice, can be offered.

### 492. Special Studies in Gerontology (1-3 cr) Prereq: 6 hrs gerontology or permission.

Special studies designed around the interests and needs of the individual student in such areas as the psychology, sociology, economics, or politics of aging, as well as operation of various service systems. May be either a literature review project or a field project in which experience is gained in the community identifying and analyzing needs and services related to older people.

### 494. Practicum (3-6 cr) Prereq: 9 hrs gerontology and permission.

Opportunity for students to share field experiences; to obtain guidance concerning various relationships with agency, staff, and clients; and to develop a broadly based perspective of the field of aging.

### 497. Senior Honors Project/Thesis (3-6 cr) Prereq: Senior Honors Program. *The senior honors project must be approved by the CPACS Honors Coordinator.*

Independent research project supervised by department/school faculty.

### 498. Counseling Skills in Gerontology (3 cr) Prereq: Junior or senior standing.

Develops basic counseling skills for application in gerontology.

## Social Work

**Director:** Dr. Theresa Barron-McKeagney

**Undergraduate Program Coordinator:** Patricia Carlson  
**Advisement Coordinator (Lincoln Campus):** Karen Fulton, 310 Nebraska Hall, 472-6750

**Faculty:** Barron-McKeagney, Beldin, Carlson, Coyne, D'souza, Harder, Kelley-Gillespie, Kirchner, Lee, Randall, Reiser, Roiblatt, Rolf, Szto, Weber, Woody

The undergraduate program in social work leads to the degree of bachelor of science in social work. The BSSW degree is accredited by the Council on Social Work Education.

All students begin the program as pre-social work majors and must apply for admission to the professional program. Students may initially enroll on the Lincoln campus as pre-social work majors but will transfer to the Omaha campus to complete the professional program.

Students, including freshmen and transfer students, may declare as pre-professional social work majors at any point in their academic program. Transfer students must have a cumulative grade point average of 2.5.

### Admission to the Professional Social Work Program.

Application should be made for admission to the professional BSSW program during the second semester of the sophomore year or when the student has earned a total of 60 hours prior to beginning the professional program. Students must also complete SOWK 1000 and SOWK 1500 as well as all prerequisites prior to starting the professional program. All students accepted into the professional program must register for SOWK 3010, 3110, and 3320 in their first fall semester after admission. Minimum GPA for application is 2.5. Admission will be competitive, based on a combination of criteria including: 1) GPA, 2) references, 3) personal statement, and 4) evidence of successful human services work or volunteer experience. Students may not enroll in SOWK 3010 or 3110 or 3320 without having been granted admission. The following core prerequisites must also be completed prior to starting the professional program: ECON 211, POLS 100, PSYC 181, SOCI 101, and BIOL 101/101L. Applications must be

completed by February 1st of the spring semester for the following fall admission. Admission packets may be obtained from an academic adviser or the admissions secretary of the School of Social Work.

The bachelor of science degree in social work requires the completion of 125 semester hours of credit in several prescribed areas (e.g. human biology, statistics). Of these, 50-53 semester hours are specific social work courses. Requirements relating to the degree in social work are explained in detail in the *School of Social Work's Student Handbook* on the Web at [socialwork.unomaha.edu](http://socialwork.unomaha.edu). It is strongly recommended that students seek academic advisement for selecting specific courses to meet the requirements for candidacy for the baccalaureate degree in social work.

## Specific Course Requirements— Bachelor of Science—Social Work Degree

### Core Requirements

**A. English Composition and Speech (9 hours).** Six hours may be selected from ENGL 101, 101A, 101B, 101D, 150, 151 or 254. Students must also complete a 3-hour course in speech communication selected from COMM 109, 209, 212, or 286.

**B. Social Sciences (22 hours).** The social sciences hours are to be selected from the following disciplines:

#### Psychology (7 hours)

PSYC 181. Intro to Psychology (4 cr)

*Choose one of the following:*

PSYC 287. Psychology of Personality  
PSYC 288. Psychology of Social Behavior  
PSYC 289. Developmental Psychology  
PSYC 380. Abnormal Psychology (*prerequisite*)

#### Sociology (6 hours)

SOCI 101. Intro to Sociology

*Choose one of the following:*

SOCI 225. Marriage & the Family  
SOCI 415. Social Change  
SOCI 441. Social Psychology  
SOCI 442. Personality & Social Structure  
SOCI 450. Social Institutions  
SOCI 474. Sociology of Deviance  
SOCI 481. Minority Groups  
SOCI 482. Small Groups  
SOCI 491. Political Sociology

#### Economics (3 hours)

*Choose one of the following:*

ECON 210. Intro to Economics (5 hrs)  
ECON 211. Principles of Economics

#### Political Science (3 hours)

*Choose one of the following:*

POLS 100. American Government  
POLS 108. Intro to Political Ideas  
POLS 232. Public Issues in America  
POLS 234. Government Regulation  
POLS 325. Legislative Process  
POLS 331. Urban Politics and Policies

#### History (3 hours)

HIST 202. American History After 1877

#### **C. Natural Sciences and Mathematics (11 hours).**

The natural sciences and mathematics hours must include the following courses: BIOS 101 and 101L, MATH 101 and one of the following statistics

courses: CRIM 300, SOWK 3000 (at UNO), EDPS 459, SOCI 206, ECON 215, or STAT 218.

**D. Humanities (12 hours).** Choose 12 hours from at least two departments.

*Choose 12 hours from at least two departments:*

AHIS 101. Intro to Art History & Criticism I  
AHIS 102. Intro to Art History & Criticism II  
AHIS 251. Art in the United States  
Other approved Art History courses.  
CLAS: all courses  
COMM 205. Performance of Literature  
COMM 211. Interpersonal Communication  
COMM 210. Small Group Problem Solving  
COMM 283. Interpersonal Communication  
COMM 300. Nonverbal Communication  
COMM 325. Interviewing  
COMM 375. Theories of Persuasion  
COMM 380. Gender & Communication  
ENGL 180. Intro to Literature  
English Literature courses numbered 200-247  
English Literature courses numbered 303-347  
ENGL 361A. Intro to Early American Literature  
ENGL 361B. Intro to Late American Literature  
English Literature courses numbered 362-365  
Foreign Language: all courses  
MUNM 276G. The Music Experience  
MUNM 280. World Music  
MUNM 287. History of Rock Music  
MUNM 387. History of American Jazz  
PHIL: all courses  
THEA 112G. Intro to Theatre  
THEA 234. Scripts in Performance  
THEA 335. History of Theatre I  
THEA 336. History of Theatre II

#### **Social Work (53 hours).**

(\*Offered at UNO only)

A student must complete SOWK 1000 and 1500 with a grade of "B" or better prior to beginning the professional program.

SOWK 1000. Social Work & Social Welfare (3 cr)  
SOWK 1500. Social Work & Civic Engagement (3 cr)

#### **The following courses require admission to the Professional Social Work Program.**

A student must have a grade of C or higher in required social work courses (other than practicum) for that course to be acceptable toward satisfaction of prerequisites and fulfillment of the degree. A grade of "B" or better is required in practicum courses.

SOWK 3010. Human Behavior & the Social Environment I (3 cr)  
SOWK 3020. Human Behavior & the Social Environment II (3 cr)  
SOWK 3110. Policy I: Analysis of Social Welfare Policy (3 cr)  
SOWK 3320. Social Work Practice I (3 cr)  
SOWK 3350. Social Work Practice II (3 cr)  
SOWK 3890. Writing for Social Work (3 cr)  
SOWK 4120. Institutional Oppression (3 cr)  
SOWK 4360. Social Work Practice III (3 cr)  
SOWK 4400. Research Methods in Social Work (3 cr)  
SOWK 4010, 4020, 4030, or 4040. Minority Content (3 cr)

SOWK 4410. Generic Social Work Practicum I (5 cr)  
SOWK 4420. Generic Social Work Practicum II (5 cr)  
SOWK 4450. Senior Seminar (1 cr)  
SOWK Elective (3 cr)  
SOWK or CPACS Elective (upper division) (3 cr)

#### **Electives (18 hours)**

**NOTE:** 15 hours may be taken on a Pass/No Pass basis, not more than 6 of which can be in the core requirements and none in the required social work area (limit of two courses taken Pass/No Pass per semester).

## Courses of Instruction (SOWK)

### 1000. Social Work and Social Welfare (3 cr)

Designed for the student who wants to learn about social welfare and to explore a possible major in social work. Examines historical and current issues in social welfare, social services, and the social work profession. Focuses on values, beliefs, and goals of social services and social work, and provides an historical perspective for present activities.

### 1500. Social Work and Civic Engagement (3 cr) Prereq: SOWK 1000.

Designed to acquaint the student with the social work profession, professional roles and functions, and social services delivery systems. As volunteers, students will have an opportunity to observe and participate in social services activities within Nebraska and Iowa communities incorporated with didactic experiences. Students will also have an opportunity to explore their vocational aptitude for social work practice via interactive encounters with clients and helping professionals.

### 3000. Applied Statistics and Data Processing in Public Sector

(Public Administration/Criminal Justice 300). (3 cr) Prereq: UNO Math 1310, UNL MATH 101 recommended. Basic statistics of public sector research and public administration decisionmaking. Emphasis on the exploration of data processing and techniques as they relate to statistical analysis and on understanding the proper application of statistics.

### 3010. Human Behavior and the Social Environment I (3 cr)

Prereq: SOWK 1500, BIOS 101, PSYC 181, SOCI 100 or 101 and admission to BSSW program. *Offered fall semester only.*

First part of a two-semester sequence. Basic knowledge of major contributions of the biological, social, and behavioral sciences to the understanding of human functioning in transaction with societal structures, i.e., the person-in-environment. Within a social systems framework, emphasizes theories of development/personality as it relates to the individual and small group (family) systems. Includes issues related to cultural, class, racial, ethnic and gender variations.

### 3020. Human Behavior and the Social Environment II (3 cr)

Prereq: SOWK 3010. *Offered spring semester only.*

The second portion of a two-semester sequence. Provides the student with a basic knowledge of the contributions of various social sciences to the understanding of human functioning in transaction, i.e., person-in-environment, with larger societal structures. Emphasizes the characteristics, dynamics, and structure of families and other small groups, communities and organizations. In accord with the social systems approach, this course addresses diverse ethnic, racial, gender and cultural influences on individuals and groups within western society.

### 3110. Policy I: Analysis of Social Welfare Policy (3 cr) Prereq:

Admission to the BSSW program. *Offered fall semester only.* Examines social policy development; the historical aspects; value assumptions, social-political-economic context and processes and skills required for analysis.

### 3320. Social Work Practice I (3 cr) Prereq: SOWK 1500, admission to the BSW program, and concurrent with SOWK 3010. *Offered fall semester only.*

First of a three-course practice sequence focusing on the values, knowledge and skills generic to social work practice; the problem-solving model is studied as a generic approach to social work practice. Students will be helped to integrate knowledge with practice skill through laboratory experiences; the importance of values as a guide for social work practice will be stressed.

### 3350. Social Work Practice II (3 cr) Prereq: SOWK 3010 and 3320; and concurrent with SOWK 3020 and 3110. *Offered spring semester only.*

Second of a three-course practice sequence providing an overview of three basic theories of social work practice with individuals, families and small groups. Emphasis on assessment of social situations leading to a choice of intervention appropriate to working with individuals, small groups or families.

**3890. Writing for Social Work (3 cr)** Prereq: Junior standing; ENGL 150 and 151.

Introduction to various forms of professional writing such as process recordings, narrative writings, business communications, grant proposals and research reports.

**401. Social Work with American Indians (3 cr)** Prereq: Admission to the BSW Program. *For social work students, the course meets the minority or social work elective requirement.*

Broad study of origins, influences and issues of the American Indian which affect social work practice. Usefulness of established social work generic methods is explored. Alternative methods applicable to culturally diverse people are presented. Experiential learning is emphasized.

**4020. Social Work with the African American Family (3 cr)** Prereq: Admission to the BSW Program. *For social work students, the course meets the minority content or social work elective requirement.*

Develops awareness and understanding of some of the social conditions and cultural traits of the African American family in North America. Foundation for the adaptation of the social worker's practice to meet the needs of the African American community.

**4030. Social Work with Hispanics (3 cr)** Prereq: Admission to the BSW Program. *For social work students, the course meets the minority or social work elective requirement.*

Intended to develop in students awareness, familiarity and understanding of some of the social conditions and cultural traits of the Hispanic community with special emphasis on Mexican-Americans. It will be the foundation for the adaptation of the social worker's practice to meet the needs of this ethnic community.

**4040. Working with Minority Elderly (GERO 469) (3 cr)** Prereq: Junior or senior GERO or SOWK major.

Interdisciplinary course designed to provide the student with knowledge of the differing status, attitudes, and experiences of the elderly within four major minority groups and to examine various service systems and practice models in terms of their relevance and effectiveness in meeting needs of minority elderly.

**4120. Institutional Oppression (3 cr)** Prereq: SOWK 311, ECON 211; POLS 100; SOWK 3110; and admission to BSSW program. *Offered spring semester only.*

Examines the problems and issues of institutional racism and sexism as it relates to social injustice. Focuses on the causes of institutional racism and sexism and its effects on the individual, groups, families, and institutions. Concentrates on the analysis of related institutional barriers and constraints affecting racial minorities and women. Discussion directed at increasing the awareness and appreciation of the issues and problems of institutional racism and sexism and the advancement of strategies to eliminate the problems. Consideration given to the role of social work practice for the removal of institutional barriers for racial minorities and women.

**4360. Social Work Practice III (3 cr)** Prereq: Senior standing, SOWK 3020, 3110, and 3350; and concurrent with SOWK 4120 or permission of the School. *Offered fall semester only.*

Third of a three-course practice sequence and provides an introduction to the goal-oriented, planned change process with an emphasis on groups, organizations and communities. Focuses on developing practice skills in planning, collaboration, empowerment and advocacy to effect change.

**4400. Research Methods in Social Work (3 cr)** Prereq: Admission to the professional social work program, junior standing, and statistics.

Focuses on the scientific method as it is applied to social work research. Purpose of all social work research is to answer questions or solve problems. Six phases of the research process will be identified and the basic tasks to be accomplished in each phase will be learned. Special attention will be given to evaluating social work practice.

**4410. Generic Social Work Practicum I (5 cr) (Fall, Spring, Summer)** Prereq: Senior standing, SOWK 3350; and SOWK 4120 and 4360 prior to or concurrently; and permission of the School. Provides individualized and experiential learning offered within the setting of a social service agency. Student is introduced to a variety of social work practice roles, develop professional relationships with client systems and learn to apply a number of intervention modalities to effect change. In order to facilitate integration of classroom theory with practice, students will attend a 7-week seminar (2 hrs per week).**4420. Generic Social Work Practicum II (5 cr) (Fall, Spring, Summer)** Prereq: SOWK 4410; and SOWK 4120 and 4360 prior to or concurrently; and permission of the School. Continuation of supervised field practice as described in SOWK 4410.**4450. Senior Social Work Seminar (1 cr)** Prereq: Subsequent or concurrent with SOWK 4420.

Integrating senior seminar designed to be taken with the final course of practicum. Facilitates the transition from student to professional social worker through the use of specific assignments focused on areas of resume development, continuation of research, awareness of continuing education needs, issues of licensure, and exposure to social work professionals.

**4640. Social Work in Child Welfare (3 cr)** Prereq: Admission to the BSW Program.

Examines the history, challenges, and issues of governmental intervention in families to protect at-risk children. Concentrates on the effects of the 1980 federal legislation (PL 96-272) on child welfare delivery systems and practice. Provides a comprehensive overview of child welfare services, including child protective services, in-home services, foster care, group care, and adoption. Overview of the juvenile justice system and its impact on children and their families.

**4650. Social Work in Mental Health and with Intellectual Disabilities (3 cr)** Prereq: Admission to the School of Social Work or special permission; SOWK 3320.

A comprehensive avenue of guided exchange and dissemination of mental health and mental retardation issues. Increases students' knowledge, awareness, and understanding of mental health concerns facing social workers in their interventions with direct and indirect consumers of services and other professionals. Includes: history, laws, and policy implications; human rights and social justice issues; the assessment of individuals; and the delivery of services.

**4800. Social Work and the Law (3 cr)** Prereq: Admission to the BSW program or permission of the School of Social Work. Fundamental principles of criminal and civil law that have relevance to the practice of social work. Topics include the legal system, legal research methods, professional ethical/legal responsibilities, family law, criminal law, juvenile law, personal injury law, employment discrimination law, capacity to make contracts and wills, rights of institutionalized patients, and rights of handicapped children to an education.**4810. Spirituality and Social Work Practice (3 cr)** Prereq: BSW students who have completed SOWK 3020 and 3350, or permission of the School.

Social work literature defines spirituality as the human striving for a sense of meaning, purpose, values, and fulfillment. Spirituality is expressed through diverse forms in clients' lives; it is central to clients' understanding of suffering and their attempts to resolve it. Examines major issues pertaining to spiritually-sensitive social work practice with clients of diverse religious and nonreligious (i.e., outside sectarian institutional contexts) perspectives.

**4850. Hospice and Other Services for the Dying Patient/Family (GERO 485) (3 cr)** Prereq: Senior or graduate in social work or permission of School. *Offered fall semester only.*

Designed to involve students in the recognition of fears, concerns, and needs of dying patients and their families by examining the hospice concept and other services available in our community. Factual information, readings, professional presentations, films, and experiential exercises are offered to aid the student in understanding that hospice is an alternative to the traditional medical model so that when the "cure" system is no longer functional, then the "care" system, hospice, can be offered.

**4860. Women's Issues and Sexism: A Social Work Perspective (3 cr)** Prereq: SOWK 3350.

Focuses on the issues of feminism and sexism in social work practice and their implication for social service delivery systems, social policy and practice modalities.

**4880. Topical Seminar in Social Work (1-3 cr)** Prereq: Admission to BSW program. *This course may be repeated for up to 9 hours credit.*

Advanced topics and experiences in social work theory and practice. Specifics announced when the course is offered. The topics selected will be consistent with faculty expertise and student needs.

**4890. Special Studies in Social Work (1-4 cr) (Fall, Spring, Summer)** Prereq: Permission of the School. *Written approval required prior to enrollment.*

Independent study in library research, social work practice, or individualized special projects.

**4970H. Senior Honors Project/Thesis (3-6 cr)** Prereq: Senior in Honors Program. *The senior honors project must be approved by the CPACS Honors Coordinator.*

Independent research project supervised by department/ school faculty.

## College of Nursing

**NOTE:** Because of the competitive admissions process to the College of Nursing, it is strongly recommended that students interested in nursing contact the Student Services Adviser on one of the four campuses for current information and advising.

The following information is an overview of the College of Nursing. More detailed information is available from the Student Adviser on one of the four College of Nursing campuses.

### University of Nebraska Medical Center Administered

The programs offered by the College of Nursing are administered through the University of Nebraska Medical Center (UNMC). The Bachelor of Science in Nursing program is accredited by the Commission on Collegiate Nursing Education (CCNE) of the American Association of Colleges of Nursing.

The nursing profession offers a wide variety of career opportunities for men and women. Career choices range from highly technical positions in research or intensive care to "high touch" specialties such as hospice care or the newborn nursery. Graduates of the College of Nursing earn a bachelors degree and are prepared to assume staff nurse level positions in areas such as public health, gerontology, pediatrics, industrial settings, emergency room, psychiatric and mental health facilities, and acute care agencies.

Students have the option of a five semester traditional BSN program or an accelerated BSN, one calendar year, for those who have already earned a bachelors degree in another field.

**Clinical Facilities—Lincoln Campus.** The College of Nursing, Lincoln Campus, utilizes a variety of health agencies throughout the Lincoln area for clinical learning and experience. Cooperating community agencies include: BryanLGH Medical Center (East and West), Lincoln-Lancaster County Health Department, Lincoln Regional Mental Health Center, Madonna Centers, Nebraska Heart Institute, St. Elizabeth Regional Medical Center, The Tabitha Home, and The Veterans Administration Hospital. All students complete a rural health experience. All clinical course work is under the direct supervision of the College of Nursing faculty.

**Graduate Program.** The University of Nebraska Medical Center College of Nursing offers graduate programs leading to master of science in nursing (MSN) and doctor of philosophy (PhD) degrees. The masters student enters with an interest in a

chosen field of clinical nursing and basic clinical competence. The masters program offers several nurse practitioner options, clinical nurse specialist options and a health systems administration option. The doctoral student enters with clinical competence in a chosen field of nursing and an interest in a specific area of research.

Graduate-level nursing courses are offered by the graduate faculty at the College of Nursing. Graduate-level cognate courses in the basic, behavioral and social sciences may be taken at the University of Nebraska at Omaha, Lincoln, Kearney or the Medical Center, or from other accredited graduate programs. All programs of study are planned with the major adviser after acceptance into the graduate program.

**Registered Nurses.** The College of Nursing offers an advanced placement program for registered nurses leading to a bachelor of science in nursing or an accelerated option leading to the master of science in nursing. Interested RNs should contact the Student Services Adviser for details.

## Admission Requirements for the Bachelor of Science in Nursing

Applications for admission to the College of Nursing are welcome from women and men who are interested in preparing for a career in nursing. Preference for admission may be given to Nebraska residents. Consideration is given to the quality of academic work, the completion of admission requirements, references, and eligibility to obtain a license to practice nursing in Nebraska.

International applicants must present scores on the Test of English as a Foreign Language (TOEFL) and Test of Spoken English (TSE). Applicants whose language of nurture is not English must present current (within the last two years) scores from instruments that measure listening, structure, reading, writing and oral communication competency in the English language. The Test of English as Foreign Language (TOEFL) and the Test of Spoken English (TSE) are acceptable examinations to demonstrate English language competency.

International applicants who originate from countries whose native language is English will be evaluated individually. If there is a question of English proficiency, the applicant must demonstrate English proficiency according to the tests listed in #1.

Minimum scoring standards are:

- Internet Based TOEFL (IBT) minimum score of 83. TSE not required.
- Computer Based TOEFL (CBT) minimum score of 220. TSE minimum of 55.
- Paper Based TOEFL (PBT) minimum score of 550. TSE minimum of 55.

Applicants admitted on the basis of undergraduate work completed at a college or university in which instruction is in a language other than English will be required to demonstrate acceptable proficiency in the English language before they will be eligible for admission.

Applicants must meet regular requirements for admission to the University of Nebraska-Lincoln.

The following **minimum** college hours must be completed with a grade of C or better before admission will be granted:

- 6 hours English Composition I & II
- 3 hours Introduction to Psychology
- 3 hours Introduction to Sociology
- 3 hours Human Growth & Development
- 8 hours Anatomy & Physiology
- 4 hours Chemistry
- 3 hours Introduction to Nutrition
- 3 hours Ethics
- 4 hours Microbiology
- 3 hours Statistics
- 3 hours Humanities elective
- 3 hours Political Science & Social Organization elective
- 3 hours Family & Human Behavior elective
- 3 hours Culture, Race, Ethnicity & Gender elective
- 3 hours additional required elective
- 5-9 hours free electives
- Proof of math competency

Applicants must also have a minimum GPA of 2.5.

The curriculum consists of a total of 62 non-nursing credit hours and 66 nursing credit hours, which many students choose to complete in more than four years. To complete the total of 128 credit hours in four years will probably require some summer courses.

Free electives may be any college-level course acceptable to the University of Nebraska. They may be additional courses in a previously studied area or a new area, e.g., drug awareness, computer classes, mathematics, health education, social problems, or women in contemporary society.

## Application Procedure

Students may apply for admission to the College of Nursing while their nonnursing required courses are in progress. The starting dates for the program are late August and mid-January each year. Application deadlines for the traditional program are February 1 for fall semester of the following year and August 1 for spring semester of the following year.

Students with a minimum college non-nursing prerequisite/corequisite grade point average of 2.5 (C) or better may apply for admission. Since the College of Nursing cannot admit more students than it has resources to accommodate, admission is competitive based on non-nursing prerequisite and corequisite GPA, letters of recommendation, personal interview, narrative, and courses completed; therefore it is in the best interest of the student to complete as many of the nonnursing courses with the best GPA as possible. An average GPA for admission has been 3.0 or above for all campuses. Average GPA for admission on the Lincoln campus is typically higher. A **course grade below C in any of the nonnursing courses is not acceptable to the UNMC College of Nursing.**

Applicants may obtain information through the Student Services Advisers of the College of Nursing (Omaha Division 402/559-5102, Lincoln Division 402/472-3657, West Nebraska Division 308/630-1359, Kearney Division 308/234-8322).

A nonrefundable application fee must accompany each initial application to the University of Nebraska system. Application fees are not applied

toward tuition and fee charges. Payment is made by check or money order, payable to the University of Nebraska Medical Center. **NOTE:** Applicants who have previously paid an application fee and attended either UNL, UNMC, UNO, or UNK **do not need to submit another fee.**

Applicants who are enrolled on one of the other campuses of the University of Nebraska must authorize the intercampus transfer of records and transcripts by completing the *Change of Campus* form.

**Completed application forms** are returned to the Office of Academic Records at the Medical Center in Omaha for processing.

The application includes the following:

1. Application for Admission form.
2. Official transcripts from high school or GED (high school equivalency certificate) and **all** postsecondary institutions attended. (**NOTE:** UNL students should complete the *Change of Campus* form to have a copy of these materials sent from UNL to UNMC.)
3. Two references. Examples of acceptable references are high school teachers, college faculty, and employers. Persons selected to submit references should not be family members of the applicant.
4. Campus preference form. This enables applicants to indicate their choice of campus (UNMC, UNL, West Nebraska in Scottsbluff, or UNK). Students should note that it may not be possible to assign students to their first choice campus.
5. A completed Disclosure Statement.

Beginning in April and October of each year, notification of admission will be mailed to applicants. If enrollment limits are met, an alternate list of qualified applicants will be maintained and offers of admission will be sent to those applicants as vacancies occur. Students should note that when they are admitted to the College of Nursing, they will be classified as second-semester sophomores, regardless of the number of credit hours completed.

**Following acceptance**, and prior to enrollment, the student **must** provide (a) medical health forms, (b) immunization information, and (c) verification of CPR for Health Professionals certification. A background check will also be required for final acceptance. Acceptance is not final until these requirements are met and evaluated in terms of rules for clinical placement and potential licensure. Students are required to have current immunizations and CPR certification throughout the program. All students with 7 or more credit hours are required to carry health insurance.

## Transfer Credit

Usually credit earned from an accredited college is acceptable to the University of Nebraska. Grades from other than a University of Nebraska campus must be at least 2.0 (C) if the course is to be accepted for transfer credit by the College of Nursing. The College of Nursing reserves the right to evaluate all credit hours submitted on an application. Transfer credits are recorded with no grade or quality points assigned.

Applicants from other than University of Nebraska campuses will receive credit in the

program based on the transferable college credits they present which are equivalent to the College of Nursing program requirements. It is emphasized that even though courses and credits may transfer, the College of Nursing is the final authority on how these courses and credits apply toward a degree in nursing.

Credit earned more than five years prior to application for admission will be evaluated. Applicants *may be* required to repeat selected courses, or validate knowledge through challenge examinations.

## Tuition

University of Nebraska–Lincoln tuition charges apply for all nonnursing course work. Resident tuition for nursing courses is estimated at \$227.75 per credit hour for the 2008-2009 academic year. In addition, clinical nursing courses have laboratory fees.

## Financial Aid

Following admission to the College of Nursing, all financial aid for nursing students is disbursed through the UNMC Financial Aid Office, Box 984265, Nebraska Medical Center, Omaha, NE 68198-4265. Application materials are obtained from that office.

## Nursing Major

The nursing major includes one semester of sophomore level nursing course work, two semesters of junior nursing course work and two semesters of senior level course work for a total of five semesters. This is significant when considering financial aid available for spring admission. Due to requirements for community and rural nursing clinical experiences, access to an auto or the ability to stay over night out of town may be necessary. Students are responsible for their own expenses.

Level 1: (Sophomore)	Hours
NURS 262 Professional Nursing.....	2
NURS 268 Health Assessment & Promotion (2.5/1.5).....	4
NURS 280 Foundations of Nursing (2.5/1.5).....	4
NURS 386 Evidence-Based Nursing Practice & Research.....	2
	12

**NOTE:** All required nonnursing courses must be completed prior to starting Level 2.

Level 2: (Junior)	Hours
NURS 320 Family-Centered Nursing Care of Adults (4/3).....	7
NURS 325 Pathophysiologic Basis of Alterations in Health.....	4
NMED 470 Pharmacology & Drug Therapy in Nursing.....	2
	13

Level 3: (Junior)	Hours
NURS 340 Family-Centered Maternity Nursing (3/2).....	5
NURS 350 Family-Centered Nursing Care of Children (3/2).....	5
NURS 425 Concepts, Issues, & Nursing Care Related to Chronic Health Conditions (2/2).....	4
	14

<sup>1</sup> Theory hours/Lab hours.

Level 4: (Senior)	Hours
NURS 410 Family-Centered Psychiatric Mental Health Nursing (2/2) <sup>1</sup> .....	4
NURS 420 Community Health Nursing (2/3) <sup>1</sup> .....	5
NURS 460 Gerontological Nursing (2/2) <sup>1</sup> .....	4
	13

Level 5: (Senior)	Hours
NURS 435 Health Policy & Issues.....	2
NURS 450 Family-Centered Nursing Care of Clients with Acute Complex Problems (2/3) <sup>1</sup> .....	5
NURS 470 Nursing Management Strategies (2/1) <sup>1</sup> .....	3
NURS 480 Transition to Professional Nursing (0/4) <sup>1</sup> .....	4
	14

**Grand Total** .....66

with an emphasis on etiology, cellular and systemic pathophysiological response and clinical manifestations. Interdisciplinary management will be introduced.

**NU340. Family-Centered Maternity Nursing (5 cr)** Prereq: Level I and Level II standing courses. Focus on the nursing care of the at low/high risk childbearing family across antepartum, intrapartum, postpartum and newborn periods. Decision making processes are applied in a family-centered approach to promote and to restore health in the at low and high risk pregnant woman/fetus/newborn. Concepts of wellness, developing, relating and knowing are integrated into the nursing care. Current trends and issues related to family centered maternity nursing will be explored. Ambulatory, inpatient and home management of various levels of wellness will be implemented in a variety of clinical settings.

**NU350. Family-Centered Nursing Care of Children (5 cr)** Prereq: Level I and Level II standing courses.

Focus on the application of problem-solving approaches to promote, protect, and restore the health of children from infancy through adolescence within the context of the family. The concepts of growth, developing, relating and knowing are emphasized. Current trends and issues related to family centered health care of children will be explored. A variety of clinical experiences will be provided in ambulatory, inpatient and community settings.

**NU386. Evidence-based Nursing Practice and Research (2 cr)** Prereq: Statistics. Permission.

Introduction to the language and skills of evidence-based nursing practice and research. Practical skills required to identify and appraise best evidence to support nursing practice. Components of the research process. Issues related to implementation and integration of best evidence in practice.

**NU410. Client-Centered Psychiatric Mental Health Nursing (4 cr)** Prereq: Level I, Level II, and Level III standing courses. Concurrent: NU420. Permission.

Presents nursing care which emphasizes the process of relating to promote, restore, and protect the mental health of individuals and groups. Explores the human experience of mentally ill clients as they interact with environmental forces including their families and health care providers. Current trends and issues related to psychiatric mental health nursing will be explored. Variety of settings will be used to provide learning experiences.

**NU420. Community Health Nursing (5 cr)** Prereq: Level I, Level II, and Level III courses. Prereq or parallel: NU410.

Community-focused nursing practice. Process of knowing focuses on introductory concepts of public health, community assessment, health program development, case management for individuals and families, and analysis of health risks for populations. Health promotion, protection, and restoration interventions for clients across the lifespan are emphasized in clinical practice. Concepts consistent with the nursing dimensions of relating and developing are expanded to include aggregates and multidisciplines in this community-focused experience. Influence of cultural diversity, economics, politics, environments, and ethics as they impact community health nursing practice are explored throughout the course. Opportunities to practice comprehensive, independent nursing care roles and function in unstructured, diverse health care environments are provided.

**NU425. Concepts, Issues, and Nursing Care Related to Chronic Health Conditions (4 cr)** Prereq: Level I and Level II.

Focus on the developmental tasks and biopsychosocial coping of clients and families experiencing chronic health conditions across the life span. Instructional strategy of problem based learning will be used to assist students to examine major problems and issues related to chronicity. During seminar sessions, students use their decision making skills to plan promotive, protective and restorative care for selected case studies of clients with chronic health conditions and their families. Cultural, ethical, legal, and economic issues related to chronicity will be explored. Emphasis will be placed on collaboration and coordination to provide continuity of care in a variety of environments.

**NU435. Health Policy and Issues (2 cr)** Prereq: Level I, Level II, Level III, and Level IV standing courses. Permission.

Emphasis on professional role development in relation to environmental, social, political, and economic factors which influence health care policy. Selected topics are examined to help students analyze issues, compare and contrast multiple views on issues, and formulate appropriate responses to health care policy.

**NU438. Independent Study** (1-4 cr) Prereq: Admission to the College of Nursing and permission of the instructor. Designed to meet needs and interests of individuals and/or groups of students for nursing theory and/or practice not offered in other courses. Self-directed learning requires independence in motivation and direction as students use their own unique learning abilities to accomplish their selected goals.

**NU438H. Honors: Independent Study** (3-4 cr) Prereq: NU399 and faculty recommendation. Designed for students who have demonstrated a commitment to scholarship: intellectual curiosity and academic excellence. Focused on giving the undergraduate student experience participating as a member of a research team or to collaborate with a faculty member to design a research project.

**NU444. Senior Clinical Nursing Externship** (3-6 cr) Prereq: Level III courses (enrollment limited, application required). Expanded client care experiences in a faculty supervised practice setting. Focus on improving student planning, organization, and psychomotor skills, enabling the student to enter their senior year and their professional practice more knowledgeable about the responsibilities of the nursing role, and more secure in their own capabilities.

**NU450. Family-Centered Nursing Care of Clients with Acute Complex Problems** (5 cr) Prereq: Level I, Level II, and Level III standing courses; NU410, NU420 and NU425. Parallel: NU435. Focus on nursing care of clients and their families who are experiencing acute alterations in health. Emphasis on restoration, protection and promotion of health in high acuity settings. Students have the opportunity for follow-up of clients they have cared for during acute health alterations. Problem based approaches will be utilized in the planning, organization, and implementation of nursing care. Through the processes of knowing, relating, and developing, the student will gain an understanding of the human health experience as it relates to the acutely ill.

**NU460. Gerontological Nursing** (4 cr) Prereq: Level I, Level II, and Level III standing courses. Synthesizes scientific, conceptual and nursing content while focusing on the unique biopsychosocial factors related to the aging client. Demographic, environmental, ethnic, and cultural issues related to aging are explored. Emphasis placed on the students' ability to apply complex clinical judgement and skills in promoting, protecting, and restoring older adults highest functional capacity. Clinical experiences are provided in diverse environments.

**NU470. Nursing Management Strategies** (3 cr) Prereq: Level I, Level II, Level III, and Level IV courses. Management of human, fiscal, and material resources to promote an environment facilitating delivery of health care. Skills in influencing, collaborating, facilitating, negotiating, and building teams, selected management strategies, and development of personal effectiveness, accountability, and responsibility for maintaining standards of quality client care are emphasized.

**NU480. Transition to Professional Nursing** (4 cr) Prereq: Level I, Level II, Level III, and Level IV standing courses and NU450, NU460, and NU470. Clinical practicum which provides each student an opportunity to assume the role of a beginning professional nurse in concert with a registered nurse preceptor in a health care setting selected by the student in collaboration with faculty. Integrate previously acquired knowledge and experience to develop self-reliance, build expertise, an



# Achievement-Centered Education (ACE) Program List

ACE SLO	College	Course	Course Title	1 of 2 SLOs?
<b>ACE Outcome 1</b>				
1	JMC	ADVT 283	Writing for Strategic Communications	
1	JMC	ADVT 451	Advertising & Public Relations Techniques	
1	ASC	ENGL 101	Writing : Rhetoric & Reading	
1	ASC	ENGL 101H	Honors Writing: Rhetoric & Reading	
1	ASC	ENGL 150	Writing: Rhetoric as Inquiry	
1	ASC	ENGL 150H	Honors Writing: Rhetoric as Inquiry	
1	ASC	ENGL 151	Writing: Rhetoric as Argument	
1	ASC	ENGL 151H	Honors Writing: Rhetoric as Argument	
1	ASC	ENGL 254	Writing & Communities	
1	ASC	ENGL 354	Writing: Uses of Literacy	
1	JMC	JGEN 120	Basic Business Communication	
1	JMC	JGEN 200	Technical Communication I	
1	JMC	JGEN 220	Business Communication Strategies	
1	JMC	JGEN 287H	Honors: Applied Communication Seminar I (RAIK 287H)	
1	JMC	JGEN 288H	Honors: Applied Communication Seminar II (RAIK 288H)	
1	JMC	JGEN 300	Technical Communication II	Yes
1	JMC	JOUR 102	The Art of Writing	
1	JMC	JOUR 444	Science Writing	
1	JMC	NEWS 202	Beginning Reporting	
<b>ACE Outcome 2</b>				
2	JMC	ADVT 333	Strategic Communications Graphics	

ACE SLO	College	Course	Course Title	1 of 2 SLOs?
2	ANR	ALEC 102	Interpersonal Skills for Leadership	
2	FPA	ARTP 140A	Visual Literacy Lab: Analysis &/or Composition (ARCH, IDES, JGEN, LARC, TXCD 140A)	
2	FPA	ARTP 140B	Visual Literacy Lab: Perceptual Drawing (ARCH, IDES, JGEN, LARC, TXCD 140B)	
2	FPA	ARTP 141A	Visual Literacy Lab: Color (ARCH, IDES, JGEN, LARC, TXCD 141A)	
2	FPA	ARTP 141B	Visual Literacy Lab: Speculative Drawing (ARCH, IDES, JGEN, LARC, TXCD 141B)	
2	FPA	ARTP 143	Visual Literacy: Art & Design (ARCH, IDES, JGEN, LARC, TXCD 143)	
2	FPA	ARTP 189H	University Honors Seminar	Yes
2	ASC	COMM 109	Fundamentals of Human Communication	
2	ASC	COMM 109H	Honors: Fundamentals of Human Communication	
2	ASC	COMM 209	Public Speaking	
2	ASC	COMM 209H	Honors: Public Speaking	
2	ASC	COMM 210	Small Group Problem Solving	
2	ASC	COMM 283	Interpersonal Communication	
2	ASC	COMM 286	Business & Professional Communication	
2	ASC	FREN 304	Advanced Composition, Grammar, & Conversation II	
2	ASC	GERM 303	Advanced Composition, Grammar, & Conversation I	
2	ASC	GERM 304	Advanced Composition, Grammar, & Conversation II	

ACE SLO	College	Course	Course Title	1 of 2 SLOs?
2	JMC	JGEN 187H	Honors: Introductory Communication Seminar I (RAIK 187H)	
2	JMC	JGEN 188H	Honors: Introductory Communication Seminar II (RAIK 188H)	
2	JMC	JGEN 300	Technical Communication II	Yes
2	JMC	JOUR 142	Visual & Aural Literacy (ARCH, ARTP, IDES, LARC, TXCD 142)	
2	JMC	JOUR 162	Visual & Aural Literacy II	
<b>ACE Outcome 3</b>				
3	ASC	CSCE 155	Computer Science I	
3	ASC	CSCE 155H	Honors: Computer Science I	
3	ASC	CSCE 156	Computer Science II	
3	ASC	CSCE 156H	Honors: Computer Science II	
3	ASC	CSCE 183H	Honors: Computer Problem Solving Essentials (RAIK 183H)	
3	CBA	ECON 215	Statistics	
3	EHS	EDPS 330	Measurement & Evaluation in Nutrition, Fitness & Health Promotion	
3	EHS	EDPS 459	Statistical Methods	
3	ASC	MATH 104	Calculus for Managerial & Social Sciences	
3	ASC	MATH 106	Analytic Geometry & Calculus I	
3	ASC	MATH 106B	Calculus I for Biology & Medicine	
3	ASC	MATH 107	Analytic Geometry & Calculus II	
3	ASC	MATH 107H	Honors: Calculus II	
3	ASC	MATH 108H	Honors: Accelerated Calculus I	
3	ASC	MATH 109H	Honors: Accelerated Calculus II	
3	ASC	MATH 203	Contemporary Mathematics	
3	ASC	MATH 203J	Contemporary Math "J"	
3	ASC	MATH 208	Analytic Geometry & Calculus III	
3	ASC	MATH 208H	Honors: Analytic Geometry & Calculus III	
3	ASC	MATH 221	Differential Equations	
3	ASC	MATH 221H	Honors: Differential Equations	
3	ASC	MATH 238	Mathematical Methods for Biology & Medicine	
3	ASC	MATH 310	Introduction to Modern Algebra	
3	ASC	MATH 310H	Honors: Introduction to Modern Algebra	
3	ASC	MATH 314	Applied Linear Algebra	
3	ASC	MATH 314H	Honors: Applied Linear Algebra	
3	ASC	MATH 324	Introduction to Partial Differential Equations	
3	ASC	MATH 325	Elementary Analysis	
3	CBA	MIST 250	Business Programming (MNGT 250)	
3	CBA	MNGT 245	Elementary Quantitative Methods	
3	ASC	PHIL 110	Introduction to Logic & Critical Thinking	
3	ASC	PHIL 211	Introduction to Modern Logic	
3	ASC	SOCI 206	Introduction to Social Research II	
3	ANR	STAT 218	Introduction to Statistics	
3	ASC	STAT 380	Statistics & Applications (MATH 380)	
<b>ACE Outcome 4</b>				
4	ANR	AGRI 115	Biotechnology: Food, Health & Environment	
4	ANR	AGRO 131	Plant Science	
4	ASC	ANTH 232	Introduction to Prehistory	

ACE SLO	College	Course	Course Title	1 of 2 SLOs?
4	ASC	ANTH 242	Introduction to Physical Anthropology	
4	ASC	ASTR 103	Descriptive Astronomy	
4	ASC	ASTR 103H	Honors: Descriptive Astronomy	
4	ASC	ASTR 204	Introduction to Astronomy & Astrophysics	
4	ASC	BIOS 101	General Biology	
4	ASC	BIOS 102	Cell Structure & Function	
4	ASC	BIOS 102H	Honors: Cell Structure & Function	
4	ASC	BIOS 103	Organismic Biology	
4	ASC	CHEM 105	Chemistry in Context 1	
4	ASC	CHEM 109	General Chemistry I	
4	ASC	CHEM 110	General Chemistry II	
4	ASC	CHEM 113	Fundamental Chemistry I	
4	ENG	ELEC 304	Signals & Systems I	
4	ANR	ENTO 115	Insect Biology (BIOS 115)	
4	ASC	GEOG 155	Elements of Physical Geography	
4	ASC	GEOL 100	Introduction to Geology	
4	ASC	GEOL 101	Physical Geology	
4	ASC	GEOL 103	Historical Geology	
4	ASC	GEOL 106	Environmental Geology	
4	ASC	GEOL 109	Oceanography	
4	ASC	GEOL 115	The Earth's Energy Resources	
4	ASC	METR 140	Severe & Unusual Weather	
4	ASC	METR 200	Weather & Climate	
4	ANR	MSYM 109	Physical Principles in Agriculture	
4	ANR	NRES 108	Earth's Natural Resource Systems Laboratory	
4	ASC	PHYS 115	Descriptive Physics	
4	ASC	PHYS 141	Elementary General Physics I	
4	ASC	PHYS 141H	Honors: Elementary General Physics I	
4	ASC	PHYS 142	Elementary General Physics II	
4	ASC	PHYS 142H	Honors: Elementary General Physics II	
4	ASC	PHYS 151	Elements of Physics	
4	ASC	PHYS 211	General Physics I	
4	ASC	PHYS 211H	Honors: General Physics I	
4	ASC	PHYS 212	General Physics II	
4	ASC	PHYS 212H	Honors: General Physics II	
4	ASC	PHYS 260	Liberal Arts Physics: Matter & Motion	
4	ASC	PHYS 261	Liberal Arts Physics: Atoms & Fields	
4	ANR	PLPT 110	Molds & Man	
4	ASC	POLS 250	Genetics, Behavior & Politics	Yes
4	ASC	PSYC 373	Biopsychology (BIOS 373)	
4	EHS	TXCD 206	Textiles	
<b>ACE Outcome 5</b>				
5	ARH	ARCH 240	Architecture History & Theory I	Yes
5	ASC	CLAS 141	Spectacle & Entertainment in the Roman World	
5	ASC	CLAS 180	Classical Mythology	
5	ASC	CLAS 233	Science in the Classical World	
5	ASC	CLAS 245	War in the Classical World	
5	ASC	CLAS 281	The World of Classical Greece	

ACE SLO	College	Course	Course Title	1 of 2 SLOs
5	ASC	CLAS 282	The World of Classical Rome	
5	ASC	ENGL 180	Introduction to Literature	
5	ASC	ENGL 189H	University Honors Seminar	
5	ASC	ENGL 201A	Introduction to Drama	
5	ASC	ENGL 201B	Twentieth-Century Drama	
5	ASC	ENGL 202	Modern British & American Poetry	
5	ASC	ENGL 202A	Introduction to Poetry	
5	ASC	ENGL 205	Twentieth-Century Fiction	
5	ASC	ENGL 210I	Illness & Health in Literature	
5	ASC	ENGL 210L	Arthur in Legend & Literature	
5	ASC	ENGL 210P	Literature of War & Peace*	Yes
5	ASC	ENGL 210T	Stories & Human Experience	
5	ASC	ENGL 212	Introduction to Lesbian & Gay Literature (WMNS 212)	Yes
5	ASC	ENGL 215	Introduction to Women's Literature (WMNS 215)	Yes
5	ASC	ENGL 230	English Authors to 1800	
5	ASC	ENGL 230A	Shakespeare	
5	ASC	ENGL 231	English Authors after 1800	
5	ASC	ENGL 244	African American Literature (ETHN 244)	Yes
5	ASC	ENGL 244A	Introduction to African Literature (ETHN 244A)	Yes
5	ASC	ENGL 244B	Black Women Authors (ETHN, WMNS 244B)	Yes
5	ASC	ENGL 244D	African-Caribbean Literature (ETHN 244D)	Yes
5	ASC	ENGL 244E	Early African American Literature (ETHN 244E)	Yes
5	ASC	ENGL 245A	Introduction to Asian American Literature & Culture (ETHN 245A)	Yes
5	ASC	ENGL 245B	Native American Literature (ETHN 245B)	Yes
5	ASC	ENGL 245D	Chicana and/or Chicano Literature (ETHN 245D)	Yes
5	ASC	ENGL 245N	Native American Women Writers (WMNS 245N)	Yes
5	ASC	ENGL 270	Literary/Critical Theory	
5	ASC	ENGL 275	Introduction to Rhetorical Theory	Yes
5	ASC	ENGL 302A	Poetry since 1945	
5	ASC	ENGL 303	Short Story	
5	ASC	ENGL 305A	The Novel 1700-1900	
5	ASC	ENGL 311G	Revolution & Romanticism	
5	ASC	ENGL 315A	Survey of Women's Literature (WMNS 315A)	Yes
5	ASC	ENGL 330A	Shakespeare on Screen	
5	ASC	ENGL 331	British Authors Since 1800	
5	ASC	ENGL 333A	Willa Cather & Her World	
5	ASC	ENGL 340	Classical Roots of English Literature	
5	ASC	ENGL 341	The Bible as Literature	
5	ASC	ENGL 361A	Introduction to Early American Literature	
5	ASC	ENGL 361B	Introduction to Late American Literature	
5	ASC	ENGL 364	Introduction to Restoration & Eighteenth-Century Literature	
5	ASC	ENGL 365	Introduction to Nineteenth-Century British Literature	
5	ASC	HIST 100	Western Civilization to 1715	

ACE SLO	College	Course	Course Title	1 of 2 SLOs
5	ASC	HIST 100H	Honors: Western Civilization to 1715	
5	ASC	HIST 101	Western Civilization Since 1715	
5	ASC	HIST 101H	Honors: Western Civilization Since 1715	
5	ASC	HIST 189H	University Honors Seminar	
5	ASC	HIST 201	American History to 1877	
5	ASC	HIST 201H	Honors: American History to 1877	
5	ASC	HIST 202	American History After 1877	
5	ASC	HIST 202H	Honors: American History After 1877	
5	ASC	HIST 205	History of Canada	
5	ASC	HIST 209	Ancient Greece	
5	ASC	HIST 210	Ancient Rome	
5	ASC	HIST 211	History of the Middle Ages	
5	ASC	HIST 220	History of Christianity	
5	ASC	HIST 221	Science in History	
5	ASC	HIST 228	History of Medicine in Western Society	
5	ASC	HIST 231	History of England: Stonehenge through the Glorious Revolution	
5	ASC	HIST 232	History of England Since the Glorious Revolution	
5	ASC	HIST 261	Russia to the Era of Catherine the Great	
5	ASC	HIST 343	American Urban & Social History I	
5	ARH	IDES 445	History of Furniture	Yes
5	JMC	JOUR 189H	University Honors Seminar	
5	FPA	MUED 450	American Cultural Perspectives through Popular Music & Guitar (MUNM, TEAC 450/850)	Yes
5	ASC	PHIL 101	Introduction to Philosophy	Yes
5	ASC	PHIL 231	History of Philosophy	
5	ASC	PHIL 301	Theory of Knowledge	
5	ASC	PHIL 302	Introduction to Metaphysics	
5	ASC	PHIL 337	Knowledge: Ancient & Medieval	
5	ASC	PHIL 338	Metaphysics: Ancient & Medieval	
5	ASC	RELG 150	Explaining Religion	
5	ASC	RELG 205	Introduction to the Hebrew Bible/Old Testament (JUDS 205)	
5	ASC	RELG 206	Ways of Western Religion	
5	ASC	RELG 220	Reason & Religion	
5	ASC	RELG 225	Science & Religion	
5	ASC	RUSS 301	Representative Authors I	
5	ASC	RUSS 302	Representative Authors II	
5	ASC	RUSS 482	Russian Literature in Translation I	
5	ASC	SPAN 421	Medieval Literature	
5	ASC	SPAN 445	Spanish Golden Age Drama	
5	EHS	TXCD 407	History of Costume	
5	EHS	TXCD 408	History of Textiles	
<b>ACE Outcome 6</b>				
6	JMC	ADVT 450	Public Relations, Theory, Strategy & Management	
6	ANR	AECN 141	Introduction to the Economics of Agriculture	
6	ASC	ANTH 110	Introduction to Anthropology	Yes

ACE SLO	College	Course	Course Title	1 of 2 SLOs?
6	ASC	ANTH 212	Introduction to Cultural Anthropology (ETHN 212)	
6	ASC	ANTH 252	Archaeology of World Civilizations (CLAS 252)	Yes
6	CBA	BSAD 182H	Honors: Foundations of Business II (RAIK 182H)	
6	EHS	CEHS 200	Families, Schools, & Communities	
6	ASC	COMM 370	Family Communication	
6	PAC	CRIM 101	Survey of Criminal Justice	
6	EHS	CYAF 160	Human Development & the Family	
6	EHS	CYAF 222	Introduction to Family Finance	
6	EHS	CYAF 280	Family Science	
6	EHS	CYAF 380	Working with Families in Communities & Schools	
6	CBA	ECON 211	Principles of Macroeconomics	Yes
6	CBA	ECON 212	Principles of Microeconomics	Yes
6	EHS	EDPS 209	Strategies for Academic Success	
6	EHS	EDPS 250	Fundamentals of Child Development for Education	
6	EHS	EDPS 251	Fundamentals of Adolescent Development for Education	
6	EHS	EDPS 362	Learning in the Classroom	
6	EHS	EDPS 457	Learning & Motivation Principles for Secondary Teaching	
6	CBA	ENTR 121	Introduction to Entrepreneurial Management (MNGT 121)	
6	CBA	ENTR 421	Entrepreneurship & Venture Management (MNGT 421)	
6	CBA	FINA 260	Personal Finance	
6	ASC	GEOG 181	Quality of the Environment	Yes
6	ASC	GEOG 283	Space, the Environment & You	
6	ASC	GEOG 361	Urban Geography	
6	PAC	GERO 200	Introduction to Gerontology	
6	JMC	JOUR 408	Politics & the Media	
6	CBA	MNGT 320	Principles of Management	
6	CBA	MNGT 360	Managing Behavior in Organizations	
6	CBA	MNGT 360H	Honors: Managing Behavior in Organizations	
6	CBA	MNGT 365	Managing Diversity in Organizations	Yes
6	CBA	MNGT 467	Leadership in Organizations	
6	CBA	MRKT 425	Retailing Management	
6	ANR	NRES 323	Natural Resources Policy	
6	ASC	POLS 100	Power & Politics in America	Yes
6	ASC	POLS 227	The Presidency	
6	ASC	POLS 230	Elections, Political Parties, & Special Interests	
6	ASC	POLS 238	Blacks & the American Political System	Yes
6	ASC	POLS 250	Genetics, Behavior & Politics	Yes
6	ASC	PSYC 181	Introduction to Psychology	
6	ASC	PSYC 181H	Honors: Introduction to Psychology	
6	ASC	PSYC 233	Aggression	
6	ASC	PSYC 263	Introduction to Cognitive Processes	
6	ASC	PSYC 289	Developmental Psychology	
6	EHS	SLPA 230	The Brain & Human Communication	

ACE SLO	College	Course	Course Title	1 of 2 SLOs?
6	ASC	SOCI 101	Introduction to Sociology	
6	ASC	SOCI 201	Social Problems	Yes
6	ASC	SOCI 209	Sociology of Crime	
6	ASC	SOCI 217	Nationality & Race Relations (ETHN 217)	Yes
6	ASC	SOCI 225	Marriage & the Family	Yes
6	EHS	SPED 201	Introduction to Special Education	

**ACE Outcome 7**

7	FPA	AHIS 101	Introduction to Art History & Criticism I	
7	FPA	AHIS 102	Introduction to Art History & Criticism II	
7	ARH	ARCH 240	Architecture History & Theory I	Yes
7	ARH	ARCH 241	Architecture History & Theory II	
7	FPA	ARTP 189H	University Honors Seminar	Yes
7	FPA	CERM 131	Introduction to Ceramics	
7	ASC	COMM 205	Performance of Literature	
7	FPA	DRAW 101	Beginning Drawing	
7	ASC	ENGL 250	Introduction to Creative Writing	
7	ASC	ENGL 252	Introduction to Writing of Fiction	
7	ASC	ENGL 253	Introduction to Writing of Poetry	
7	ASC	ENGL 253A	Writing of Poetry: Women's Poetry	
7	ASC	ENGL 258B	Autobiographical Writing	
7	ASC	ENGL 282	Literature & the Other Arts	
7	ASC	ENGL 352	Advanced Writing of Fiction	
7	ASC	ENGL 353	Advanced Writing of Poetry	
7	ANR	HORT 200	Landscape & Environmental Appreciation (GEOG, LARC 200)	Yes
7	ARH	IDES 445	History of Furniture	Yes
7	FPA	MUED 450	American Cultural Perspectives through Popular Music & Guitar (MUNM, TEAC 450/850)	Yes
7	FPA	MUNM 275	Music in Film	
7	FPA	MUNM 276G	The Music Experience	
7	FPA	MUNM 287	The History of Rock Music	
7	FPA	MUNM 387	History of American Jazz	
7	FPA	MUSC 101	Introduction to Music	
7	FPA	MUSC 189H	University Honors Seminar	
7	FPA	MUSC 280	World Music (MUNM 280)	Yes
7	FPA	PHOT 161	Beginning Photography I	
7	FPA	THEA 112G	Introduction to Theatre	
7	FPA	THEA 112H	Honors: Introduction to Theatre	

**ACE Outcome 8**

8	ANR	AECN 445	Agricultural & Natural Resource Policy Analysis (NREE 445)	Yes
8	ARH	ARCH 107	Sustainability Basics & the Built Environment	
8	CBA	BSAD 282H	Honors: Business Systems & Operations II (RAIK 282H)	
8	ENG	CNST 420	Professional Practice & Ethics	
8	ASC	COMM 189H	University Honors Seminar	
8	ASC	COMM 375	Theories of Persuasion	
8	ARH	CRPL 400	Introduction to Planning	
8	CBA	ECON 211	Principles of Macroeconomics	Yes

ACE SLO	College	Course	Course Title	1 of 2 SLOs	ACE SLO	College	Course	Course Title	1 of 2 SLOs
8	CBA	ECON 212	Principles of Microeconomics	Yes	9	ASC	ETHN 100	Freshmen Seminar-The Minority Experience	Yes
8	ASC	ENGL 210P	Literature of War & Peace	Yes	9	ASC	ETHN 200	Introduction to African American Studies	Yes
8	ASC	ENGL 275	Introduction to Rhetorical Theory	Yes	9	ASC	ETHN 201	Introduction to Native American Studies	Yes
8	ASC	ENGL 376	Rhetoric: Argument & Society	Yes	9	ASC	ETHN 202	Introduction to USA Latina/Latino Studies	
8	ASC	ENVR 189H	Humans, Water & the Environment		9	ASC	GEOG 140	Introductory Human Geography	
8	ASC	ETHN 100	Freshmen Seminar-The Minority Experience	Yes	9	ASC	GEOG 181	Quality of the Environment	Yes
8	ASC	ETHN 200	Introduction to African American Studies	Yes	9	ASC	GEOG 272	Geography of World Regions	
8	ASC	ETHN 201	Introduction to Native American Studies	Yes	9	ASC	HIST 120	World History to 1500 CE	
8	JMC	JOUR 487	Mass Media & Society		9	ASC	HIST 121	World History Since 1500 CE	
8	ASC	PHIL 101	Introduction to Philosophy	Yes	9	ASC	HIST 150	African Culture & Civilization	
8	ASC	PHIL 106	Philosophy & Current Issues	Yes	9	ASC	HIST 171	Latin American Culture & Civilization (ETHN 171)	
8	ASC	PHIL 225	Environmental Ethics	Yes	9	ASC	HIST 181	Introduction to East Asian Civilization	
8	ASC	POLS 100	Power & Politics in America	Yes	9	ASC	HIST 217	Israel: The Holy Land (JUDS, RELG 217)	
8	ASC	WMNS 210	Activism & Feminist Communities		9	ASC	HIST 218	History of Islam	
<b>ACE Outcome 9</b>					9	ASC	HIST 219	Introduction to Jewish History (JUDS, RELG 219)	
9	JMC	ADVT 438	Global Advertising		9	ASC	HIST 225	Women in History (WMNS 225)	
9	ANR	AECN 346	World Food Economics		9	ASC	HIST 241	Native American History (ETHN 241)	
9	ANR	AECN 367	Agricultural Development in Developing Countries		9	ASC	HIST 242	Native American Women (ETHN, WMNS 242)	
9	ANR	AECN 420	International Food & Agricultural Trade	Yes	9	ASC	HIST 282	Modern East Asia	
9	ANR	AECN 425	Agricultural Marketing in a Multinational Environment	Yes	9	ANR	HORT 200	Landscape & Environmental Appreciation (GEOG, LARC 200)	Yes
9	ANR	AGRI 282	Introduction to Global Agricultural & Natural Resources Issues		9	CBA	MNGT 365	Managing Diversity in Organizations	Yes
9	ASC	ANTH 110	Introduction to Anthropology	Yes	9	CBA	MNGT 428	International Management	
9	ASC	ANTH 252	Archaeology of World Civilizations (CLAS 252)	Yes	9	FPA	MUSC 280	World Music (MUNM 280)	Yes
9	ASC	ANTH 442	Human Variation	Yes	9	EHS	NUTR 253	Cultural Aspects of Food & Nutrition	
9	ASC	CLAS 183	Heroes, Harlots & Helots		9	ASC	PHIL 106	Philosophy & Current Issues	Yes
9	ASC	COMM 211	Intercultural Communication (ETHN 211)		9	ASC	PHIL 225	Environmental Ethics	Yes
9	EHS	CYAF 495	Special Topics in Family & Cultural Diversity		9	ASC	POLS 160	International Relations	
9	CBA	ECON 321	Introduction to International Economics		9	ASC	POLS 238	Blacks & the American Political System	Yes
9	ASC	ENGL 212	Introduction to Lesbian & Gay Literature (WMNS 212)	Yes	9	ASC	RELG 108	World Religions	
9	ASC	ENGL 215	Introduction to Women's Literature (WMNS 215)	Yes	9	ASC	RELG 181	Judaism, Christianity & Islam	
9	ASC	ENGL 244	African American Literature (ETHN 244)	Yes	9	ASC	RELG 208	Introduction to Islam	
9	ASC	ENGL 244A	Introduction to African Literature (ETHN 244A)	Yes	9	ASC	RELG 209	Judaism & Christianity in Conflict & Coexistence (JUDS 209)	
9	ASC	ENGL 244B	Black Women Authors (ETHN, WMNS 244B)	Yes	9	ASC	SOCI 189H	University Honors Seminar	
9	ASC	ENGL 244D	African-Caribbean Literature (ETHN 244D)	Yes	9	ASC	SOCI 200	Women in Contemporary Society	
9	ASC	ENGL 244E	Early African American Literature (ETHN 244E)	Yes	9	ASC	SOCI 201	Social Problems	Yes
9	ASC	ENGL 245A	Introduction to Asian American Literature & Culture (ETHN 245A)	Yes	9	ASC	SOCI 217	Nationality & Race Relations (ETHN 217)	Yes
9	ASC	ENGL 245B	Native American Literature (ETHN 245B)	Yes	9	ASC	SOCI 225	Marriage & the Family	Yes
9	ASC	ENGL 245D	Chicana and/or Chicano Literature (ETHN 245D)	Yes	9	EHS	TEAC 330	Multicultural Education (ETHN 330)	
9	ASC	ENGL 245N	Native American Women Writers (WMNS 245N)	Yes	9	EHS	TXCD 123	Clothing & Human Behavior	
9	ASC	ENGL 315A	Survey of Women's Literature (WMNS 315A)	Yes	9	ASC	WMNS 101	Introduction to Women's & Gender Studies	
9	ASC	ENGL 315B	Women in Popular Culture (WMNS 315B)		9	ASC	WMNS 201	Introduction to Lesbian, Gay, Bisexual, Transgender Studies	
9	ASC	ENGL 376	Rhetoric: Argument & Society	Yes	9	ASC	WMNS 385	Women, Gender & Science (AGRI, NRES 385)	

ACE SLO	College	Course	Course Title	1 of 2 SLOs
10	ANR	AECN 420	International Food & Agricultural Trade	Yes
10	ANR	AECN 425	Agricultural Marketing in a Multinational Environment	Yes
10	ANR	AECN 435	Advanced Agricultural Marketing Management	
10	ANR	AECN 445	Agricultural & Natural Resource Policy Analysis (NREE 445)	Yes
10	ANR	AGRO 405	Crop Management Strategies	
10	ANR	AGRO 475	Water Quality Strategy (CRPL, CIVE, GEOL, MSYM, NRES, POLS, SOCI, SOIL, WATS 475)	
10	FPA	AHIS 400	Art History Capstone Experience	
10	ASC	ANTH 442	Human Variation	Yes
10	ARH	ARCH 310	Fundamentals of Architectural Design	
10	ARH	ARCH 311	Architectural Design: Ecological Context	
10	ARH	ARCH 410	Architectural Design: Tectonics	
10	ARH	ARCH 411	Architectural Design: Urbanism Studio	
10	FPA	ARTP 400	Capstone Art Experience	
10	ANR	ASCI 486	Animal Biological Systems	
10	ANR	BIOC 435	Advanced Topics in Biochemistry	
10	ANR	BSEN 480	Design II in Agricultural & Biological Systems Engineering (AGEN 480)	
10	ENG	CHME 453	Chemical Engineering Process Design	
10	ENG	CIVE 489	Senior Design Project	
10	ENG	CIVE 489H	Honors: Senior Design Project	
10	ENG	CNST 489	Senior Construction Project	
10	ASC	CSCE 487	Computer Science Design Project	
10	ASC	CSCE 489	Computer Engineering Senior Design Project	
10	EHS	CYAF 413	Student Teaching in Family & Consumer Sciences	
10	EHS	CYAF 497A	Student Teaching in Early Childhood Education	
10	EHS	CYAF 497D	Community Internships in Family & Consumer Sciences	
10	ENG	ELEC 495	Electrical Engineering Senior Design II	
10	ASC	ENGL 454	Advanced Writing Projects	
10	ASC	ENGL 487	English Capstone Experience	
10	ANR	ENTO 485	Current Issues in Entomology	
10	ASC	ENVR 499A	Environmental Studies Senior Thesis I	
10	ASC	ENVR 499B	Environmental Studies Senior Thesis II	
10	ASC	ENVR 499H	Honors: Environmental Studies Senior Thesis I & II	
10	ASC	ETHN 400	Senior Seminar	
10	ANR	FDST 460	Food Product Development Concepts	
10	ANR	FORS 485	Current Issues in Forensic Science	
10	ASC	FREN 445	Seventeenth Century I	
10	ASC	FREN 446	Seventeenth Century II	
10	ASC	FREN 449	Eighteenth Century I	
10	ASC	FREN 453	French Literature Nineteenth Century I	
10	ASC	FREN 457	Twentieth-Century French Literature I	
10	ASC	FREN 458	Twentieth-Century French Literature II	
10	ASC	FREN 459	Literature of French Canada	
10	ANR	HORT 469	Senior Landscape Design (ARCH 469)	

ACE SLO	College	Course	Course Title	1 of 2 SLOs
10	ANR	HORT 488	Business Management for Horticultural Enterprises	
10	ARH	IDES 451	Interior Design Studio 4	
10	ENG	IMSE 450	Senior Engineering Project	
10	ASC	MATH 417	Introduction to Modern Algebra I	
10	ASC	MATH 428	Principles of Operations Research	
10	ASC	MATH 489	Stochastic Processes & Advanced Mathematical Finance	
10	ENG	MECH 446	Mechanical Engineering Design I	
10	ENG	MECH 447	Mechanical Engineering Design II	
10	CBA	MNGT 475	Business Policies & Strategies	
10	CBA	MNGT 475H	Honors: Business Policies & Strategies	
10	ANR	MSYM 462	Equipment Systems	
10	FPA	MUED 403	Student Teaching Seminar	
10	FPA	MUSC 445	Analysis for Performance	
10	ANR	NRES 433	Wildlife Management Techniques	
10	ANR	NRES 463	Fisheries Science	
10	ANR	PGMP 489	Professional Golf Management Integration	
10	ASC	PHIL 400	Undergraduate Seminar in Philosophy	
10	ASC	POLS 400	Democracy & Democratic Citizenship	
10	ASC	PSYC 350	Research Methods & Data Analysis	
10	OUP	RAIK 402H	Honors: Design Studio IV (CSCE, BSAD 402H)	
10	ASC	SOCI 495	Senior Seminar	
10	ANR	TLMT 427	Critical Thinking in Turfgrass Management (AGRO, HORT, PGMP 427)	
10	ANR	TLMT 470	Critical Thinking in Landscape Management (AGRO, HORT 470)	
10	ASC	WMNS 400	Senior Seminar	



# Essential Studies and Integrative Studies List of Courses

## Comprehensive Education Program

It is anticipated that UNL students matriculating prior to fall 2009 will continue to complete the CEP General Education Program requirements as designated by the bulletin year in which the student started his or her UNL college program. Students who transfer to UNL as of fall 2009 may elect to complete their program under the CEP General Education Program requirements.

**First-year students who begin matriculation at UNL in fall 2009 are required to complete the new general education requirements for the Achievement-Centered Education (ACE) Program (see page 17 for program information).**

### Program Overview

UNL, as a comprehensive university, provides for a student's educational experience through its faculty, curriculum, libraries, laboratories, museums, performing art centers, athletic activities, public lectures and living community. To assist a student in logically connecting these pieces, the UNL faculty designed the Comprehensive Education Program. Unlike the specific study in a major field, which students often envision as their purpose for being at a university, the Comprehensive Education Program requires students to lay a foundation for their continued intellectual growth by developing 1) their ability and desire to analyze,

evaluate and communicate complex material and positions, and 2) a context for understanding the breadth of human endeavor. Without this foundation, students may be unable to engage the complex issues which either an in-depth study in a major area requires or our society faces.

The Comprehensive Education Program, which is required of all undergraduate students entering UNL in fall 1995 and subsequently, encompasses four components: Information Discovery and Retrieval, Essential Studies, Integrative Studies and Co-Curricular Experience. The faculty of each undergraduate college has designated specific courses for the students within their college which will satisfy the curricular components of the Comprehensive Education Program. In many instances, the faculty of the colleges have expanded the Comprehensive Education Program to meet the particular needs of their students and the discipline which they study. The four components of the Comprehensive Education Program, however, remain the same regardless of which college the student chooses and serve to connect the students' learning in general education to their learning in their major. These components are discussed in the paragraphs which follow.

### Information Discovery and Retrieval

The University of Nebraska-Lincoln's Love Library faculty is making available to all incoming students a 1-credit-hour course which will teach not only how to use the library system on campus but also how to do research with

emerging electronic databases. Students in several UNL colleges will be required to take this course in their first year.

#### 110. Introduction to Library Research (1 cr)

A seven-week independent learning course designed to provide a practical understanding of libraries, their organization, tools and services. The course emphasizes effective strategies for accessing information and performing library-based research.

For more information about this course or the University Libraries, see "University Libraries" on page 387.

### Essential Studies [ES]

To provide students a context for understanding the breadth of human endeavor, Essential Studies maps out a minimum experience for an undergraduate student in a broad range of university offerings. While recognizing that one or two courses in any area cannot result in mastering the knowledge of that area, a single course can familiarize a student with the representative issues in an area and a foundation for understanding the perspective that area offers. To meet the Essential Studies requirement, a student will take nine courses (generally 27 credit hours) across the following areas of knowledge:

**Area A-Communication:** Knowledge of and experience with writing and speaking appropriate to a broadly educated college graduate, not limited only to the technical or pragmatic demands of the student's major. (1 course)

**Area B-Mathematics and Statistics:** Knowledge of essential mathematical concepts and of the nature of mathematical reasoning and language, or, when appropriate, of methods of statistical analysis. (1 course)

**Area C-Human Behavior, Culture and Social Organization:** Knowledge of individual and group behavior, the nature and origins of culture, the structure and governance of societies, the characteristics of economic practices and systems, and the interplay of human activity (urban, agricultural, and industrial) and the natural environment. (2 courses)

**Area D-Science & Technology:** Knowledge of the natural world and its interrelationship with human existence, of the aims and methods of scientific exploration, and the creation and social impact of technology. (1 course)

**Area E-Historical Studies:** Knowledge of the way in which history may be used to interpret the development of peoples, nations, or cultures. (1 course)

**Area F-The Humanities:** Knowledge of literary, philosophical, or religious efforts to interpret and illuminate human existence. (1 course)

**Area G-The Arts:** Knowledge of the history and creation of music, art, design, architecture, drama, dance, photography, or the communication media. (1 course)

**Area H-Race, Ethnicity & Gender:** Knowledge and analysis of theoretical concerns, social experiences, or creative works arising from human diversity in the United States and the world community to which it belongs. (1 course)

While a single Essential Studies course may encompass more than a single area of knowledge, it cannot simultaneously fulfill the Essential Studies requirement for two areas. A single course may be applied to only one area. With the possible exception of Area H, Race, Ethnicity and Gender, students should anticipate that the majority of their Essential Studies requirement will be completed in the lower division (100-200 level).

While Essential Studies is a requirement of the Comprehensive Education Program, colleges often extend a student's Essential Studies experience and require additional courses beyond the minimum experience required within the Comprehensive Education Program. **Recognizing this, students would consult with their college adviser when planning their academic program and their Essential Studies courses.** A list of Essential Studies courses is found under "Essential Studies Program List" on page 399 of this bulletin and are identified in course descriptions by the ES symbol.

## Integrative Studies [IS]

Integrative Studies is a UNL experience requirement intended to engage students in actively developing their ability and desire to analyze, evaluate and communicate complex material and positions. A student will take ten courses (generally 30 credit hours) which are taught as Integrative Studies to enhance the following skills:

- **Critical Thinking** (objective and subjective), through a variety of approaches in which students investigate arguments, engage in research, gather data, perform qualitative and quantitative analysis, and assess conclusions.
- **Writing** (formal and informal), on which the instructor comments, used to explore substantial problems in the subject area and report the results of critical and creative thinking.
- **Oral Expression** in the classroom through discussion, group and individual reports, and other activities that provide students opportunities to share creative work, describe research, or explore important issues.
- **Analysis of Controversies** concerning the subject matter of the course in which students investigate concepts and hypotheses open to question.
- **Exploration of Assumptions** underlying beliefs and concepts relevant to course content and of processes for examining those assumptions, so that students understand and establish control over those ideas they bring to their study of the subject matter.
- **Inquiry Through Course Content Into the Origins, Bases and Consequences of Intellectual Bias** through which students will understand the particular perspective on the world employed in the academic discipline of the course.
- **Consideration of Human Diversity** appropriate to the subject matter of the course so that students can explore the way in which cultural differences shape conceptions about the subject matter and discern the intellectual and pragmatic effects on human groups of the subject matter and ideas related to it.

To encourage students to develop their intellectual abilities throughout their academic program, at least one course in Integrative Studies must be taken at the 200 level, one at the 300 level and one at the 400 level and no more than three courses are to be taken within a single department. Moreover, by spreading the Integrative Studies requirement to accommodate five courses in the lower division (100- and 200 level) and five courses in the upper division (300- and 400 level), students will find that Integrative Studies connects their learning in Essential Studies to learning in their major and assists them in developing a progressively more sophisticated analysis of complex problems and issues.

Many courses which meet Essential Studies or other college requirements are taught as Integrative Studies. While the variety of courses available as Integrative Studies allows students to choose how to meet their Integrative Studies requirement, students benefit from consulting with their college adviser so that choices which enrich their academic program can be made. A list of Integrative Studies courses is found under "Integrative Studies Program List" on page 410 of this bulletin and are identified in course descriptions by the IS symbol.

## Transferring Credit Toward Comprehensive Education Requirements

### General Rule

Transfer students, whether from a Nebraska post-secondary institution or any other institution of higher education, present credits for transfer evaluation. As a part of that evaluation, the faculty of the colleges determine whether courses presented for transfer credit are equivalent to courses offered at UNL. In making that determination, the faculty evaluate issues of course content; e.g., did the course cover essentially the same content in both depth and breadth? Certain limitations, however, apply on the application of equivalent courses. For instance:

- The University's colleges may require that specific courses or a certain number of credit hours be completed on the UNL campus to satisfy the residency requirement.
- Each of the University's colleges has the discretion to decide whether or not a course offered at its own campus is applicable to a degree requirement. Therefore, if a transferred course is equivalent to a UNL course which does not satisfy a degree requirement, the transferred course may not be used to satisfy a degree requirement.

These limitations may affect the application of transfer credits to certain components of the Comprehensive Education Program.

The **Information Discovery and Retrieval component** of the Comprehensive Education Program facilitates the development of a student's independent research skills. As one element of that component, the UNL library faculty makes available a one-credit hour course to teach students how to use the UNL library system. The faculty of the colleges further enhance these skills in courses they teach as Integrative Studies. Generally, students transferring to the University are required to take this course unless they can demonstrate knowledge of and skill in using the UNL libraries. While this course is a part of the Comprehensive Education Program, some of the University's colleges will not allow this course to be applied to meet degree requirements.

The **Essential Studies component** of the Comprehensive Education Program is knowledge-based because it is intended to familiarize a student with the representative issues in a knowledge area and a foundation for understanding the perspective that area offers. Because upper division course work builds on this foundational knowledge, University students are encouraged to complete the majority of their Essential Studies during their first two years at the University. In keeping with this purpose, the transfer students will find that if the course they present for transfer credit is equivalent to a UNL Essential Studies course, the transfer credits will also meet the University Essential Studies requirements. While the majority of University Essential Studies courses are

recognized by each of the University's colleges, some colleges will not allow certain University Essential Studies courses to be applied to meet their degree requirements.

The **Integrative Studies component** of the Comprehensive Education Program are courses taught in such a manner that students are actively engaged in developing their intellectual abilities, and because Integrative Studies courses are based on teaching activity and not content, courses presented for transfer credit can not be used to satisfy this University Integrative Studies requirement. Integrative Studies is a UNL experience requirement and, as such, a certain number of these courses must be taken in residence at UNL. Recognizing that students are unable to transfer credits to meet this requirement, the Integrative Studies residency requirement is proportionally reduced based on the number of transferred semester hours of academic credits which are accepted toward the students' degree program until a maximum of 66 semester hours are accepted.<sup>1</sup> Generally, all students graduating from a UNL college will be required to take a minimum of five Integrative Studies courses (i.e., 15 credit hours) in residence at UNL.<sup>2</sup> To meet this

1 The proportional reduction reflects both the expectation and actual experience that students take two or three courses taught as Integrative Studies during each of their years at UNL. Students who transfer in excess of 79 semester hours of academic credits which are accepted toward their degree program in the College of Agricultural Sciences and Natural Resources and the College of Arts and Sciences should see their academic adviser to determine their Integrative Studies residency requirement.

2 Students graduating from the College of Engineering are required to meet a minimum residency requirement of four Integrative Studies courses (i.e., 12 credit hours) because of the slightly different structure of the Integrative Studies requirement in that College, and students in the College of Agricultural Sciences and Natural Resources should see footnote #1. In meeting the residency requirement, the majority of colleges do not permit correspondence or similar courses to be used.

minimum requirement, students are encouraged to take upper division Integrative Studies courses. At least one 300-level and one 400-level course, however, is required. This minimum requirement provides all students graduating from UNL with an opportunity to engage the UNL faculty through an interactive classroom which is meant to assist the student in developing a more sophisticated analysis of complex issues and problems.

Below is a table reflecting the proportional reduction and the general minimum Integrative Studies requirement:

Total Successfully Transferred Credit Hours	Courses Taught as Integrative Studies to be Taken at UNL
Under 13	10
13-26	9
27-39	8
40-53	7
54-65	6
66-or greater	5

### Comprehensive Education Program for Students With An AA/AS Degree

Students transferring to UNL who have earned an AA or AS degree from a Nebraska community college and fulfilled the general education requirements of the statewide core program will be considered to have met the Essential Studies component of the University-wide Comprehensive Education Program. **Undergraduate colleges within the University, however, have variable college requirements which extend beyond the Essential Studies component of the University-wide Comprehensive Education Program, and students will be required to fulfill those requirements.**

Additionally, students with AA or AS degrees will be required to meet the remaining requirements of the University-wide Comprehensive Education Program while in residence at UNL by taking:

- five Integrative Studies courses (e.g., 15 credit hours), and
- the Information Discovery and Retrieval component by either taking LIBR 110 or by demonstrating knowledge of and skill in using the Love Library.

In keeping with the intent of the Comprehensive Education Program, students are encouraged to take a majority of their Integrative Studies courses in the upper division. A minimum of at least one 300-level and one 400-level course, however, is required.

### AP or CLEP Credit

Students may present for transfer credit Advanced Placement (AP) courses taken in high school for which equivalency for a UNL course has been established. If the AP course is equivalent to a UNL course which is on the list of ES courses, students may apply that credit towards fulfillment of the ES requirement in the Area (A through H) under which the course is listed. If an AP course is equivalent to a course which is listed under two Areas of Essential Studies, credit may be applied in one area only. The student may choose under which Area the course is counted.

**NOTE:** Neither AP nor CLEP credits may be applied towards the IS requirement.

## Essential Studies Program List

The chart on the following pages lists all courses that can be taken to fulfill the Essential Studies requirement, indicating which courses also fulfill the Integrative Studies [IS] requirement, and which colleges accept a given course for ES credit. The college abbreviations are:

A = Agricultural Sciences and Natural Resources

R = Architecture

S = Arts and Science

B = Business

E = Engineering

P = Fine and Performing Arts

H = Human Resources and Family Sciences

J = Journalism and Mass Communications

T = All Teachers programs other than Elementary Education

L = Elementary Education

IS	A. Communication (3 hours)	A	R	S	B	E	P	H	J	T	L
•	ALEC 102 Interpersonal Skills for Leadership	A	R		E	H		T			
	BRDC 461 Instructional Television		R				H				
•	BSAD 282H Honors: Business Systems & Operations II (RAIK 282H)	R	S		E	P	H				

CEHS 200 Families, Schools & Communities										T	L
• COMM 109 Fundamentals of Human Communication	A	R			E	P	H		T	L	
• COMM 109H Honors: Fundamentals of Human Communication	A	R			E	P	H		T	L	
COMM 209 Public Speaking	A	R			E	P	H		T	L	
• COMM 209H Honors: Public Speaking	A	R			E	P	H		T	L	
• COMM 212 Debate	A	R			E	P	H		T	L	
• COMM 286 Business & Professional Communication	A	R	B	E	P	H		T	L		
CSCE 283H Honors: Foundations of Computer Science (RAIK 283H)			S	E		H					
CSCE 284H Honors: Foundations of Computer Systems (RAIK 284H)	R	S		E	P	H					
• ENGL 101 Writing: Rhetoric & Reading	A	R	S	B	E	P	H	J	T	L	
• ENGL 101H Honors: Writing: Rhetoric & Reading	A	R	S	B	E	P	H	J	T	L	
• ENGL 150 Writing: Rhetoric as Inquiry	A	R	S	B	E	P	H	J	T	L	
• ENGL 150H Honors: Writing: Rhetoric as Inquiry	A	R	S	B	E	P	H	J	T	L	
• ENGL 151 Writing: Rhetoric as Argument	A	R	S	B	E	P	H	J	T	L	
• ENGL 151H Honors: Writing: Rhetoric as Argument	A	R	S	B	E	P	H	J	T	L	
ENGL 188 ESL/Advanced Communication Skills	A	R	S	B		P	H		T	L	
• ENGL 254 Writing & Communities	A	R	S	B	E	P	H	J	T	L	

JGEN 120 Basic Business Communication	A	R	B		H	T	L
JGEN 200 Technical Communication I	A	R		E	H	T	
JGEN 300 Technical Communication II	A	R		E	H	T	
NEWS 202 Beginning Reporting		R			H	T	
RAIK 282H Honors: Business Systems & Operations II (BSAD 282H)		R	S	E	P	H	
RAIK 283H Honors: Foundations of Computer Science (CSCE 283H)			S	E		H	
RAIK 284H Honors: Foundations of Computer Systems (CSCE 284H)		R	S	E	P	H	
<b>IS B. Math and Statistics (3 hours)</b>	<b>A</b>	<b>R</b>	<b>S</b>	<b>B</b>	<b>E</b>	<b>P</b>	<b>H</b>
CSCE 235 Intro to Discrete Structures	A	R	S	B	E	P	H
ECON 215 Statistics	A	R		E		H	J T
EDPS 330 Measurement & Evaluation in Nutrition, Fitness & Health Promotion		R		B		H	T
EDPS 459 Statistical Methods	A	R				H	J T
IMSE 321 Engineering Statistics & Data Analysis	A	R		E	P	H	T
MATH 104 Calculus for Managerial & Social Sciences	A	R	S	B		P	H
MATH 106 Analytic Geometry & Calculus I	A	R	S	B	E	P	H
MATH 106B Calculus I for Biology & Medicine	A		S	B	E	P	H
MATH 107 Analytic Geometry & Calculus II	A	R	S	B	E	P	H
MATH 107H Honors: Calculus II	A	R	S	B	E	P	H
MATH 108H Honors: Accelerated Calculus I	A	R	S	B	E	P	H
MATH 109H Honors: Accelerated Calculus II	A	R	S	B	E	P	H
MATH 189H University Honors Seminar	A	R	S	B		P	H
MATH 203 Contemporary Mathematics	A	R	S	B		P	H
MATH 203J Contemporary Mathematics "J"	A	R	S	B		H	J
MATH 208 Analytic Geometry & Calculus III	A	R	S	B	E	P	H
MATH 208H Honors: Analytic Geometry & Calculus III	A	R	S	B	E	P	H
MATH 221 Differential Equations	A		S	B	E	P	H
MATH 221H Honors: Differential Equations	A		S	B	E	P	H
MATH 238 Mathematical Methods for Biology & Medicine	A		S	B		P	
MATH 394 Topics in Contemporary Mathematics	A	R	S	B		P	H
MNGT 245 Elementary Quantitative Methods	A	R			P	H	J T
PHIL 211 Intro to Modern Logic	A	R	S	B	E	P	H
STAT 218 Intro to Statistics	A	R	S		E	P	H
TXCD 313 Merchandising II: Merchandise Buying & Control			B		H		
<b>IS C. Human Behavior, Culture, and Social Organizations (6 hours)</b>	<b>A</b>	<b>R</b>	<b>S</b>	<b>B</b>	<b>E</b>	<b>P</b>	<b>H</b>
ABUS 341 Marketing (MRKT 341)		R			H		T
AECN 141 Intro to Economics of Agriculture	A	R	S	E	P	H	T L
AECN 265 Resource & Environmental Economics I (NREE 265)		R		B	E	P	H
AECN 276 Rural Sociology (SOCI 241)	R	S	B	E	P	H	J T L
AECN 346 World Food Economics	R	S	B	E	P	H	T L
AECN 376 Rural Community Economics	R	S	B	E	P	H	T L
AGRI 282 Intro to Global Agricultural & Natural Resources Issues	R	S	B	E	P	H	T L
ALEC 189H University Honors Seminar	A	R	B	E	P	H	
ALEC 202 Leadership Development in Small Groups & Teams		R	B	E		H	T
ALEC 302 Dynamics of Effective Leadership in Organizations		R	B	E		H	T
ANTH 110 Intro to Anthropology	A	R	S	B	E	P	H
ANTH 130 Anthropology of the Great Plains	A	R	S	B	E	P	H
ANTH 170 Intro to Great Plains Studies (GEOG, GPSP, NRES, SOCI 170)	A	R	S	B	E	H	J T L
ANTH 189H Honors: University Honors Seminar	A	R	S	B	E	H	J T L
ANTH 212 Intro to Cultural Anthropology (ETHN 212)	A	R	S	B	E	P	H

ANTH 252 Archaeology of World Civilizations (CLAS 252)	A	R	S	B	E	P	H	J	T
ANTH 261 Conflict & Conflict Resolution (POLS, PSYC, SOCI 261)	A	R	S	B	E	P	H	J	T
ANTH 272 Intro to Historical Archaeology			S						
ANTH 351 Indigenous Peoples of North America (ETHN 351)	A	R	S	B	E	P	H	J	T
ANTH 352 Indigenous Peoples of the Great Plains (ETHN 352)	A	R	S	B	E	P	H	J	T
ANTH 353 Anthropology of War	A	R	S	B	E	P	H	J	T
ANTH 362 People & Cultures of Africa (ETHN 362)	A	R	S	B	E	P	H	J	T
ANTH 366 People & Cultures of East Asia	A	R	S	B	E	P	H	J	T
ANTH 408 Cross-Cultural Mentoring I (WMNS 408)		R	S	B					
ANTH 409 Cross-Cultural Mentoring II (WMNS 409)	R	S	B						
ATHC 279 Coaching Effectiveness and Psychological Components of Sports Performance	R	S	B	E	P	H		T	
BIOS 203 Bioethics	A	R	S	B	E	P	H	J	T
BRDC 226 Intro to Broadcasting (COMM 226)	R	S	B		P	H		T	
BRDC 465 International Broadcasting	R		B		P	H		T	
BSAD 182H Honors: Foundations of Business II (RAIK 182H)	A	R	S		E	P	H	T	L
BSAD 381H Honors: Advanced Topics in Business I (RAIK 381H)	A	R	S		E	P	H	T	L
CEHS 200 Families, Schools & Communities	A	R	S	B			H		L
CLAS 252 Archaeology of World Civilizations (ANTH 252)	A	R	S	B	E	P	H	J	T
COMM 189H University Honors Seminar	A	R	S	B	E	P	H	J	T
COMM 200 Intro to Communication Studies	R	S	B	E	P	H	J	T	
COMM 210 Small Group Problem Solving	A	R	S	B	E	P	H	J	T
COMM 211 Intercultural Communication (ETHN 211)	A	R	S	B	E	P	H	J	T
COMM 226 Intro to Broadcasting (BRDC 226)	R	S	B		P	H		T	
COMM 280 Communication & Popular Culture	A	R	S	B	E	P	H	J	T
COMM 283 Interpersonal Communication	A	R	S	B	E	P	H	J	T
COMM 300 Nonverbal Communication	A	R	S	B	E	P	H	J	T
COMM 334 Polls, Politics & Public Opinion (POLS 334)	A	R	S	B	E	P	H	J	T
COMM 354 Health Communication	A	R	S	B	E	P	H	J	T
COMM 370 Family Communication	A	R	S	B	E	P	H	J	T
COMM 371 Communication in Negotiation & Conflict Resolution	A	R	S	B	E	P	H	J	T
COMM 375 Theories of Persuasion	A	R	S	B	E	P	H	J	T
COMM 380 Gender & Communication	A	R	S	B	E	P	H	J	T
CYAF 160 Human Development & the Family	A	R	S	B		P	H		T
CYAF 160H Honors: Human Development & the Family	A	R	S	B		P	H		T
CYAF 222 Intro to Family Finance	A				P	H			
CYAF 271 Infancy	A	R	S	B		P	H		T
CYAF 280 Family Science	A				P	H			
CYAF 333 Families in the Economy	A	R		B		H		T	
CYAF 381 Family Intervention with Fieldwork	A	R		B		H		T	
CYAF 488 Child & Family Policy	A	R		B		H		T	
ECON 210 Intro to Economics	A	R	S		E	P	H	J	T
ECON 211 Principles of Macroeconomics	A	R	S		E	P	H	J	T
ECON 212 Principles of Microeconomics	A	R	S		E	P	H	J	T
EDPS 189H Honors: How to Learn & Develop Talent	A	R		B	E	P	H	T	L
EDPS 209 Strategies for Academic Success		R		B	E	P	H	T	L
ENGL 220 Intro to Linguistic Principles	A	R	S	B	E	P	H	J	T
ENGL 322B Linguistics & Society	A	R	S	B	E	P	H	J	T
ETHN 189H University Honors Seminar	A	R	S	B	E	P	H	J	T
ETHN 200 Intro to African American Studies	A	R	S	B	E	P	H	J	L
ETHN 201 Intro to Native American Studies	A	R	S	B	E	P	H	J	L

• ETHN 211 Intercultural Communication (COMM 211)	A R S B E P H J T	POLS 104 Comparative Politics	A R S B E P H J T
• ETHN 212 Intro to Cultural Anthropology (ANTH 212)	A R S B E P H J T	POLS 160 International Relations	A R S B E P H J T
• ETHN 217 Nationality & Race Relations (SOCI 217)	A R S B E P H J T	• POLS 189H University Honors Seminar	A R S B E P H J T
ETHN 218 Chicanos in American Society (SOCI 218)	A R S B E P H J T	POLS 210 Bureaucracy & the American Political System	A R S B E P H J T
• ETHN 238 Blacks & the American Political System (POLS 238)	A R S B E P H J T	• POLS 221 Politics in State & Local Government	A R S B E P H J T
ETHN 310 Psychology of Immigration (PSYC 310)	A R S B E P H J T	POLS 225 Nebraska Government & Politics	A R S B E H J T
• ETHN 330 Multicultural Education (TEAC 330)	A R S B E P H T L	POLS 227 The Presidency	A R S B E P H J T
ETHN 351 Indigenous Peoples of North America (ANTH 351)	A R S B E P H J T	POLS 230 Elections, Political Parties & Special Interests	A R S B E P H J T
ETHN 352 Indigenous Peoples of the Great Plains (ANTH 352)	A R S B E P H J T	• POLS 232 Public Issues in America	A R S B E P H J T
ETHN 362 People & Cultures of Africa (ANTH 362)	A R S B E P H J T	• POLS 234 Government Regulation	A R S B E H J T
• ETHN 448 Family Diversity (SOCI 448)	A R S B E P H J T	POLS 235 Public Policy: Concepts & Processes	A R S B E H J T
FINA 260 Personal Finance	A S P H J T	• POLS 236 Public Policy Analysis: Methods & Models	A R S B E H J T
• GEOG 120 Introductory Economic Geography	A R S B E P H J T	• POLS 238 Blacks & the American Political System (ETHN 238)	A R S B E P H J T
• GEOG 140 Introductory Human Geography	A R S B E P H J T L	POLS 250 Genetics, Behavior & Politics	S B
GEOG 170 Intro to Great Plains Studies (ANTH, GPSP, NRES, SOCI 170)	A R S B E H J T L	POLS 260 Problems in International Relations	A R S B E P H J T
• GEOG 181 Quality of the Environment	A R S B E P H J T	POLS 261 Conflict & Conflict Resolution (ANTH, PSYC, SOCI 261)	A R S B E P H J T
GEOG 271 Geography of the United States	A R S B E P H J T L	POLS 263 The Causes of War & Peace	A R S B E P H J T
GEOG 272 Geography of World Regions	A R S B E P H J T L	POLS 268 Threats to World Order	A R S B E H J
• GEOG 283 Space, the Environment & You	A R S B E P H J T	POLS 271 West European Politics	A R S B E P H J T
• GEOG 361 Urban Geography	A R S B E P H J T	• POLS 272 Non-Western Politics	A R S B E P H J T
GEOG 372 European Landscapes & Cultures	A R S B E P H J T	• POLS 274 Developmental Politics in East Asia	A R S B E P H J T
• GEOG 375 Geography of Asia	A R S B E P H J T	POLS 275 Post Communist Politics & Change	A R S B E P H J T
• GEOG 378 Geography of Latin America	A R S B E P H J T	POLS 275H Honors: Post Communist Politics & Change	A R S B E P H J T
GPSP 170 Intro to Great Plains Studies (ANTH, GEOG, NRES, SOCI 170)	A R S B E H J T L	POLS 277 Latin American Politics	A R S B E P H J T
HIST 343 American Urban & Social History I	A R S B E P H J T	• POLS 281 Challenges to the State	A R S B E H J T
HIST 344 American Urban & Social History II	A R S B E P H J T	• POLS 325 Legislative Processes	A R S B E P H J T
HIST 346 North American Environmental History	A R S B E P H J T	POLS 334 Polls, Politics & Public Opinion (COMM 334)	A R S B E P H J T
• JOUR 101 Principles of Mass Media	A R S B E P H T	POLS 345 Courts, Judges and Lawyers	A R S B E P H J T
• JOUR 189H University Honors Seminar	A R B E P H	• POLS 371 Politics of the European Union	A R S B E P H J T
• JOUR 485 Mass Media History	R B E P H T	POLS 372 Russian Politics	A R S B E P H J T
• JOUR 486 Mass Media Law	R B E H T	PSYC 181 Intro to Psychology	A R S B E P H J T
• JOUR 487 Mass Media & Society	R B E H T	PSYC 181H Honors: Intro to Psychology	A R S B E P H J T
• MNGT 189H University Honors Seminar	A R E P H	PSYC 222 Psychological Aspects of Alcohol	A R S B E H J
MNGT 360 Managing Behavior in Organizations	A R S E P H T	PSYC 233 Aggression	A R S B E P H J T L
• MNGT 360H Honors: Managing Behavior in Organizations	A R S E P H T	PSYC 261 Conflict & Conflict Resolution (ANTH, POLS, SOCI 261)	A R S B E P H J T
• MNGT 465 Organization Theory & Behavior	A R S E P H T	• PSYC 263 Intro to Cognitive Processes	A R S B E P H J T
MRKT 341 Marketing (ABUS 341)	R H T	• PSYC 268 Learning & Motivation	A R S B E P H J
MRKT 341H Honors: Marketing	R H T	PSYC 270 Evolution, Behavior and Society	A R S B E P H J
• MRKT 346 Marketing Channels Management	R H T	PSYC 287 Psychology of Personality	A R S B E P H J T
MRKT 443 Consumer Behavior: Marketing Aspects	R H T	• PSYC 288 Psychology of Social Behavior	A R S B E P H J T
• MRKT 458 Sales Management	R H T	PSYC 289 Developmental Psychology	A R S B E P H J T
MUED 450 American Cultural Perspectives		PSYC 296 Practicum in Keller Plan Instruction	S E
• through Popular Music & Guitar (TEAC, MUNM 450)	A R B E P H J T	PSYC 310 Psychology of Immigration (ETHN 310)	A R S B E P H J T
• MUNM 301 Music & Sports Performance & Perception	B E P	• RAIK 182H Honors: Foundations of Business II (BSAD 182H)	A R S E P H T L
MUNM 450 American Cultural Perspectives		• RAIK 381H Honors: Advanced Topics in Business I (BSAD 381H)	A R S E P H T L
• through Popular Music & Guitar (TEAC, MUED 450)	A R B E P H J T	RELG 370 Religion & Reform: Utopian & Communal Societies in America	A R S B E P H J
NREE 265 Resource & Environmental Economics I (AECN 265)	R B E P H T L	• SOCI 101 Intro to Sociology	A R S B E P H J T
NRES 170 Intro to Great Plains Studies (ANTH, GEOG, GPSP, SOCI 170)	A R S B E H J T L	SOCI 170 Intro to Great Plains Studies (ANTH, GEOG, GPSP, NRES 170)	A R S B E H J T L
NRES 323 Natural Resources Policy	A R S B E P H T	• SOCI 182 Alpha Learning Community Freshman Seminar	A R S B E P H
NUTR 100 Nutrition, Exercise & Health	R B H T	• SOCI 183 Alpha Learning Community Freshman Seminar	A R S B E P H
NUTR 253 Cultural Aspects of Food & Nutrition	A R S B E P H	• SOCI 189H University Honors Seminar	A R S B E P H J
PHIL 216 Intro to Psychology & Philosophy	A R S B E P H J T	SOCI 198 Special Topics	S E
POLS 100 Power & Politics in America	A R S B E P H J T L		

• SOCI 200 Women in Contemporary Society	A	R	S	B	E	P	H	J	T
SOCI 201 Social Problems	A	R	S	B	E	P	H	J	T
SOCI 205 Intro to Social Research I	A	R	S	B			H		T
SOCI 206 Intro to Social Research II	A	R	S	B			H		T
SOCI 209 Sociology of Crime	A	R	S	B	E	P	H	J	T
• SOCI 210 Drugs & Society	A	R	S	B	E	P	H	J	T
• SOCI 217 Nationality & Race Relations (ETHN 217)	A	R	S	B	E	P	H	J	T
SOCI 218 Chicanos in American Society (ETHN 218)	A	R	S	B	E	P	H	J	T
SOCI 225 Marriage & the Family	A	R	S	B	E	P	H	J	T
SOCI 241 Rural Sociology (AECN 276)		R	S	B	E	P	H	J	T
SOCI 242 Urban Sociology	A	R	S	B	E	P	H	J	T
SOCI 261 Conflict & Conflict Resolution (ANTH, POLS, PSYC 261)	A	R	S	B	E	P	H	J	T
• SOCI 320 Sociology of Sport	A	R	S	B	E	P	H	J	T
• SOCI 444 Social Demography	A	R	S	B	E	P	H	J	T
• SOCI 448 Family Diversity (ETHN 448)	A	R	S	B	E	P	H	J	T
• SOCI 460 Education & Society	A	R	S	B	E	P	H	J	T
• SOCI 496 Special Topics in Crime, Deviance & Social Control	A	R	S	B	E	P	H	J	T
• SPED 303 Behavior Management		R		B			H		T
• TEAC 330 Multicultural Education (ETHN 330)	A	R	S	B	E	P	H	J	T
TEAC 450 American Cultural Perspectives through Popular Music & Guitar (MUED, MUNM 450)	A	R		B	E	P	H	J	T
• TXCD 123 Clothing & Human Behavior	R	S	B	E	P	H			T
TXCD 123H Honors: Clothing & Human Behavior	R	S	B	E	P	H			T
• TXCD 410 Socio-psychological Aspects of Clothing (WMNS 410A)	R		B	E		H			T
• WMNS 189H University Honors Seminar	A	R	S	B	E	P	H	J	
• WMNS 201 Intro to Lesbian, Gay, Bisexual Transgender Studies	A		S	B	E	P	H	J	T
• WMNS 408 Cross-Cultural Mentoring I (ANTH 408)	R	S	B						
• WMNS 409 Cross-Cultural Mentoring II (ANTH 409)	R	S	B						
• WMNS 410A Socio-psychological Aspects of Clothing (TXCD 410)	R		B	E		H			T
IS D. Science and Technology (3 hours)	A	R	S	B	E	P	H	J	T
AGEN 100 Intro to Biological Engineering & Agricultural Engineering (BSEN 100)	A		S	B	E	P	H	J	T
AGEN 112 Engineering in Agricultural & Biological Systems (BSEN 112)	A	R	S	B	E	P	H	J	T
• AGEN 344 Biological & Environmental Transport Processes (BSEN 344)	A			B	E				
• AGRI 103 Intro to Agricultural & Natural Resource Systems (NRES 103, LIBR 110A)	A		S	E		H		T	L
AGRI 271 An Intro to Computer Applications in Agriculture	A				E		H	J	T
AGRO 131 Plant Science	A	R	S	B	E	P	H	J	T
AGRO 132 Plant Science Lab	A	R	S	B	E	P	H	J	T
• AGRO 153 Soil Resources (HORT, SOIL 153)	A	R	S	B	E	P	H	J	T
ALEC 201 Electricity/Electronics (TEAC 201)	R		B			H		T	L
• ALEC 246 Modern Industries (TEAC 246)	R		B	E		H		T	L
• ANTH 242 Intro to Physical Anthropology	A	R	S	B	E	P	H	J	T
ANTH 242L Intro to Physical Anthropology Lab	A	R	S	B	E	P	H	J	T
ASCI 100 Fundamentals of Animal Biology & Industry	A			B					
• ASCI 210 Animal Products	A			B			H		
ASCI 240 Anatomy & Physiology of Domestic Animals	A	R		B	E		H	J	T
ASCI 250 Animal Management	A			B					
• ASCI 310 Fresh Meats	A			B			H		
ASCI 320 Animal Nutrition & Feeding	A			B	E		H	J	T
ASCI 330 Animal Breeding	A	R		B	E		H	J	T

ASCI 351 Biology & Management of Companion Animals	A		B						
• ASCI 370 Animal Welfare	A		B						
ASCI 421 Advanced Animal Nutrition	A		B	E		H		T	L
ASCI 431 Advanced Animal Breeding	A		B	E		H		T	L
ASCI 442 Endocrinology (BIOS 442)	A	S	B	E		H		T	L
ASTR 103 Descriptive Astronomy	A	R	S	B	E	P	H	J	T
ASTR 103H Honors: Descriptive Astronomy	A	R	S	B	E	P	H	J	T
ASTR 113 Selected Topics in Astronomy	A	R	S	B	E	P	H	J	T
ASTR 204 Intro to Astronomy & Astrophysics	A	R	S	B	E	P	H	J	T
ASTR 224 Astronomy & Astrophysics Lab	A	R	S	B	E	P	H	J	T
BIOS 101 General Biology	A	R	S	B	E	P	H	J	T
BIOS 101L General Biology Lab	A	R	S	B	E	P	H	J	T
• BIOS 102 Cell Structure & Function	A	S	B	E	P	H	J	T	L
• BIOS 102H Honors: Cell Structure & Function	A	S	B	E	P	H	J	T	L
• BIOS 103 Organismic Biology	A	S	B	E	P	H	J	T	L
BIOS 104H Honors: Introductory Biology I	A	S	B	P	H	J	T	L	
• BIOS 109 General Botany	A	R	S	B	E	P	H	J	T
BIOS 111 The Biology of Microorganisms	A	R	S	B			H	J	T
BIOS 112 Intro to Zoology	A	R	S	B	E	P	H	J	T
BIOS 112L Intro to Zoology Lab	A	R	S	B	E	P	H	J	T
BIOS 115 Insect Biology (ENTO 115)	A	R	S	B	E	P	H	J	T
BIOS 116 Insect Identification (ENTO 116)	A	R	S	B	E	P	H	J	T
• BIOS 140 Natural History of Western Nebraska	A	S	B				H	J	T
BIOS 189H University Honors Seminar	A	R	S	B		P	H	J	T
BIOS 205 Genetics, Molecular, & Cellular Biology Lab	A	S	B				H	J	T
BIOS 206 General Genetics	A	R	S	B	E	P	H	J	T
• BIOS 207 Ecology & Evolution	A	R	S	B			H	J	T
BIOS 213 Human Physiology	A	R	S	B	E	P	H	J	T
BIOS 213L Human Physiology Lab	A	R	S	B		P	H	J	T
BIOS 214 Human Anatomy	A	R	S	B			H	J	T
BIOS 220 Principles of Ecology (NRES 220)	A	R	S	B			H	J	T
BIOS 222 Ecology Lab (NRES 222)	A	R	S	B			H	J	T
• BIOS 232 Ecological Issues in the Great Plains	A	R	S	B		P	H	J	T
• BIOS 369 Introductory Plant Pathology (PLPT 369)	A	R	S	B	E	P	H	J	T
BIOS 373 Biopsychology (PSYC 373)	A	R	S	B	E	P	H	J	T
BIOS 442 Endocrinology (ASCI 442)	A	R	S	B	E		H	J	T
BSEN 100 Intro to Biological Engineering & Agricultural Engineering (AGEN 100)	A	S	B	E	P	H	J	T	L
BSEN 112 Engineering in Agricultural & Biological Systems (AGEN 112)	A	R	S	B	E	P	H	J	T
BSEN 326 Intro to Environmental Engineering (CIVE 326)	A	R	B	E		H	J	T	L
BSEN 326H Honors: Intro to Environmental Engineering (CIVE 326H)	A	R	B	E		H	J	T	L
• BSEN 344 Biological & Environmental Transport Processes (AGEN 344)	A		B	E					
• CHEM 105 Chemistry in Context I	A	R	S	B	E	P	H	J	T
• CHEM 106 Chemistry in Context II	A	R	S	B	E	P	H	J	T
• CHEM 109 General Chemistry I	A	R	S	B	E	P	H	J	T
CHEM 110 General Chemistry II	A	R	S	B	E	P	H	J	T
• CHEM 111 Chemistry for Engineering & Technology	A	R	S	B	E	P	H	J	T
• CHEM 113 Fundamental Chemistry I	A	R	S	B	E	P	H	J	T
CHEM 114 Fundamental Chemistry II	A	R	S	B	E	P	H	J	T
CHEM 116 Quantitative Chemistry Lab	A	R	S	B	E	P	H	J	T
CHEM 116H Honors: Quantitative Chemistry Lab	A	R	S	B	E	P	H	J	T
CHEM 131 The Science of Food (FDST, NUTR 131)	A	S	B	E	P	H	J	T	L
CHEM 221 Elementary Quantitative Analysis	A	S	B				H	T	
CHEM 251 Organic Chemistry I	A	S	B				H	T	
CHEM 252 Organic Chemistry II	A	S	B				H	T	
CHEM 253 Organic Chemistry I Lab	A	S	B				H	T	
CHEM 254 Organic Chemistry II Lab	A	S	B				H	T	
CHEM 261 Organic Chemistry	A	S	B				H	T	

•	CHEM 262 Organic Chemistry	A	S	B		H	T		
	CHEM 263 Organic Chemistry Lab	A	S	B		H	T		
	CHEM 263A Organic Chemistry Lab	A	S	B		H	T		
	CHEM 264 Organic Chemistry Lab	A	S	B		H	T		
	CHEM 264A Organic Chemistry Lab	A	S	B		H	T		
	CIVE 112 Intro to Civil Engineering	A	R	B	E	H	T	L	
	CIVE 310 Fluid Mechanics (MECH 310)	A	R	B	E	H	T	L	
	CIVE 310H Honors: Fluid Mechanics	A	R	B	E	P	H	T	L
	CIVE 326 Intro to Environmental Engineering (BSEN 326)	A	R	B	E	H	T	L	
	CIVE 326H Honors: Intro to Environmental Engineering (BSEN 326H)	A	R	B	E	H	T	L	
	CIVE 401 Civil Engineering Systems	A	R	B	E	H	T	L	
	CIVE 421 Hazardous Waste Management & Treatment	A	R	B	E	H	T	L	
	CSCE 101 Basics of Computing	A	R	S	B	P	H	T	
	CSCE 101L Fundamentals of Computing Lab	A	R	S	B	P	H	T	
	CSCE 150A Intro to Problem Solving with Computers			S	B		H	T	
	CSCE 150E Intro to Computer Programming for Scientists & Engineers			S	B		H	J	T
	CSCE 150M Multimedia Approach to Computing			S					
	CSCE 155 Computer Science I	A	S	B	E	P	H	J	T
	CSCE 155H Honors: Computer Science I	A	S	B	E	P	H	J	T
	CSCE 156 Computer Science II	A	S	B	E	P	H	J	T
	CSCE 156H Honors: Computer Science II	A	S	B		P	H	J	T
	CSCE 183H Honors: Computer Problem Solving Essentials (RAIK 183H)	A	S	B	E	P	H		L
	CSCE 184H Honors: Software Development Essentials (RAIK 184H)	A	S	B	E	P	H		L
•	CSCE 230 Computer Organization	A	S	B	E	P	H	J	T
•	CSCE 230H Honors: Computer Organization	A	S	B	E	P	H	J	T
	CSCE 230L Computer Organization Lab			S	B		P	H	
	DANC 338 Dance Kinesiology & Injury Prevention			B	E	P	H		
	ELEC 121 Intro to Electrical Engineering I	A	S	B	E	P	H		L
	ELEC 122 Intro to Electrical Engineering II	A	S	B	E	P	H		L
	ELEC 211 Elements of Electrical Engineering I	A	S	B	E	P	H		L
	ENGM 220 Statics	A	R	S	B	E	P	H	
	ENGM 223 Engineering Statics	A	R	S	B	E	P	H	
	ENGM 223H Honors: Engineering Statics	A	R	S	B	E	P	H	
	ENGM 324 Strength of Materials	A	R	B	E		H		L
	ENGM 325 Mechanics of Elastic Bodies	A	R	B	E		H		L
	ENGM 325H Honors: Mechanics of Elastic Bodies	A	R	B	E		H		L
	ENGM 373 Engineering Dynamics	A	B	E		H		T	L
	ENGM 380 Elements of Computer-Aided Design	A	B	E		H		T	L
	ENGM 480 Numerical Methods in Engineering	A		B	E		H		L
•	ENTO 108 Insects, Sciences & Society	A	R	B	E	P	H	J	T
	ENTO 115 Insect Biology (BIOS 115)	A	S	B	E	P	H	J	T
	ENTO 116 Insect Identification (BIOS 116)	A	S	B	E	P	H	J	T
•	FDST 101 Introductory Food Science	A		B	E		H		L
	FDST 131 The Science of Food (CHEM, NUTR 131)	A	S	B	E	P	H	J	T
	FDST 131L The Science of Food Lab	A	S	B	E	P	H		L
•	FDST 280 Contemporary Issues in Food Science	A		B			H		
•	GEOG 155 Elements of Physical Geography	A	R	S	B	E	P	H	J
•	GEOG 281 Intro to Water Science (NRES, WATS 281)	A	R	S	B	E	P	H	J
	GEOL 100 Intro to Geology	A	R	S	B	E	P	H	J
	GEOL 101 Physical Geology	A	R	S	B	E	P	H	J
•	GEOL 101H Honors: Physical Geology	A	R	S	B	E	P	H	J
	GEOL 103 Historical Geology	A	R	S	B	E	P	H	J
	GEOL 103H Honors: Historical Geology	A	R	S	B	E	P	H	J
	GEOL 105 Life of the Past	A	R	S	B	E	P	H	J
	GEOL 106 Environmental Geology	A	R	S	B	E	P	H	J
	GEOL 109 Oceanography	A	S	B	E	P	H	J	L
	GEOL 110 Geological Natural Hazards	A	S	B		P	H	J	L
	GEOL 115 The Earth's Energy Resources	A		S	B		P	H	J
	GEOL 120 Geology of National Parks & Monuments	A	R	S	B		P	H	J
	GEOL 160 Geoscience Fundamentals in the Field	A	S	B		P	H	J	T
•	GEOL 182 Alpha Learning Community Freshman Seminar	A	S	B	E	P	H		
	GEOL 210 Minerals, Rocks and Ores	A	R	S	B		P	H	J
	GEOL 211 Sedimentology & Stratigraphy			S	B				
	GEOL 410 Geochemistry	A	R	S	B			H	J
	HORT 130 Intro to Horticulture Science	A	R	B	E		H		L
•	HORT 153 Soil Resources (AGRO, SOIL 153)	A	R	S	B	E	P	H	T
	HORT 325 Greenhouse Practices & Management	A	R	B	E		H		L
	HORT 327 Intro to the Science of Turf Management	A	R	B	E		H		L
	IMSE 050 Intro to Industrial Engineering	A	R	B	E		H		L
	IMSE 201 Technology & Society	A	R	B	E		H		L
	IMSE 206 Engineering Economy I	A		B	E		H		L
	IMSE 328 Deterministic Operations Research Models	A		B	E		H		L
	IMSE 406 Decision & Risk Analysis	A		B	E		H		L
	IMSE 421 Applied Statistics & Quality Control	A		B	E		H		L
	IMSE 422 Industrial Quality Control	A		B	E		H		L
	IMSE 428 Stochastic Operations Research Models	A		B	E		H		L
	RAIK 183H Honors: Computer Problem Solving Essentials (CSCE 183H)	A	S	B	E	P	H		L
	RAIK 184H Honors: Software Development Essentials (CSCE 184H)	A	S	B	E	P	H		L
•	LIBR 110A Intro to Agricultural & Natural Resource Systems (AGRI, NRES 103)	A	S	E		H			L
	MECH 200 Engineering Thermodynamics I	A		B	E		H		L
	MECH 300 Thermal Systems & Design	A		B	E		H		L
	MECH 310 Fluid Mechanics (CIVE 310)	A	R	B	E		H		L
	MECH 342 Kinematics & Dynamics of Machinery	A		B	E		H		L
	MECH 350 Intro to Dynamics & Control of Engineering Systems	A	R	B	E		H		L
	MECH 420 Heat Transfer	A		B	E		H		L
	METL 360 Elements of Materials Science	A	R	B	E		H		L
	METR 140 Severe & Unusual Weather	A	S	B	E	P	H	J	L
•	METR 200 Weather & Climate	A	R	S	B	E	P	H	J
•	METR 205 Intro to Atmospheric Science	A	R	S	B		H	J	T
•	METR 370 Basic & Applied Climatology (NRES 370)	A	S	B	E	P	H	J	T
	MIST 452 Database Organization & Management (MNGT 452)	A		E		H			L
	MIST 454 Information Systems Analysis & Design (MNGT 454)	A		E		H			L
	MIST 457 Business Data Communications (MNGT 457)	A		E		H			L
	MNGT 452 Database Organization & Management (MIST 452)	A		E		H			L
	MNGT 454 Information Systems Analysis & Design (MIST 454)	A		E		H			L
	MNGT 457 Business Data Communications (MIST 457)	A		E		H			L
	MRKT 345 Market Research	A		E		H			L
	MSYM 109 Physical Principles in Agriculture	A	S	B	E	P	H		L
•	NRES 103 Intro to Agricultural & Natural Resource Systems (AGRI 103, LIBR 110A)	A	S	E		H			L
	NRES 108 Earth's Natural Resource Systems	A	R	S	B		P	H	T
	NRES 208 Applied Climate Sciences	A	R	S	B		P	H	T
•	NRES 211 Intro to Conservation Biology	A	R	S	B	E	P	H	T
	NRES 220 Principles of Ecology (BIOS 220)	A	R	S	B		H	J	T
	NRES 222 Ecology Lab (BIOS 222)	A	R	S	B		H	J	L
•	NRES 281 Intro to Water Science (GEOG, WATS 281)	A	R	S	B	E	P	H	J
•	NRES 370 Basic & Applied Climatology (METR 370)	A	S	B	E	P	H	J	T
	NUTR 131 The Science of Food (CHEM, FDST 131)	A	S	B	E	P	H	J	L
	NUTR 244 Scientific Principles of Food Preparation	A	B	E		H			L

NUTR 245 Scientific Principles of Food Preparation Lab	A		B	E	H	T	L			
• NUTR 452 Medical Nutrition Therapy II	A		B	E	H	T	L			
• NUTR 455 Advanced Nutrition	A		B	E	H	T	L			
PHYS 115 Descriptive Physics		S	B	E	P	H	J	T	L	
PHYS 141 Elementary General Physics I	A	R	S	B	E	P	H	J	T	L
PHYS 141H Honors: Elementary General Physics I	A	R	S	B	E	P	H	J	T	L
PHYS 142 Elementary General Physics II	A	R	S	B	E	P	H	J	T	L
PHYS 142H Honors: Elementary General Physics II	A	R	S	B	E	P	H	J	T	L
PHYS 151 Elements of Physics	A	R	S	B	E	P	H	J	T	L
PHYS 153 Elements of Physics Lab	A	R	S	B	E	P	H	J	T	L
PHYS 211 General Physics I	A	R	S	B	E	P	H	J	T	L
• PHYS 211H Honors: General Physics I	A	R	S	B	E	P	H	J	T	L
PHYS 212 General Physics II	A	R	S	B	E	P	H	J	T	L
• PHYS 212H Honors: General Physics II	A	R	S	B	E	P	H	J	T	L
PHYS 213 General Physics III	A		S	B			J			
PHYS 213H Honors: General Physics III	A		S	B			J			
PHYS 221 General Physics Lab I	A	R	S	B	E	P	H	J	T	L
PHYS 222 General Physics Lab II	A	R	S	B	E	P	H	J	T	L
PHYS 223 General Physics Lab III	A		S	B			H	T	L	
PHYS 231 Electrical & Electronic Circuits	A		S	B			H	T	L	
PHYS 260 Liberal Arts Physics: Matter & Motion		S	B		P	H	J	T	L	
PHYS 261 Liberal Arts Physics: Atoms & Fields	R	S	B	E	P	H	J	T	L	
• PHYS 262 Physical Sciences by Inquiry	R	S	B			H	T	L		
• PHYS 361 Concepts of Modern Physics	A	R	S	B	E	P	H	J	T	L
• PLPT 189H University Honors Seminar	A	R		B		P	H			
• PLPT 369 Introductory Plant Pathology (BIOS 369)	A	R	S	B	E	P	H	J	T	L
PSYC 373 Biopsychology (BIOS 373)	A	R	S	B	E	P	H	J	T	L
• SLPA 230 The Brain & Human Communication	A		B	E		H	T	L		
SLPA 271 Intro to Audiology	A	R	B			H	T	L		
SLPA 455 Anatomy & Physiology of Speech & Hearing Mechanisms	A	R	B			H	T	L		
• SOIL 153 Soil Resources (AGRO/HORT 153)	A	R	S	B	E	P	H		T	L
TEAC 201 Electricity/Electronics (ALEC 201)	R	B			H	T	L			
• TEAC 246 Modern Industries (ALEC 246)	R	B	E		H	T	L			
TXCD 206 Textiles	R	B		P	H					
• WATS 281 Intro to Water Science (GEOG, NRES 281)	A	R	S	B	E	P	H	J	T	L
IS E. Historical Studies (3 hours)	A	R	S	B	E	P	H	J	T	L
• AGRI 385 Women, Gender & Science (NRES, WMNS 385)	A	R	S	B	E		H	J		
• ANTH 232 Intro to Prehistory	A	R	S	B	E	P	H	J	T	
• ANTH 252 Archaeology of the World Civilizations (CLAS 252)	A	R	S	B	E	P	H	J	T	L
ANTH 439 Archaeology of Preindustrial Civilizations	A	R	S	B	E	P	H	J	T	
ARCH 240 Architectural History & Theory I	R	S	B	E	P	H		T		
• ARCH 340 Architectural History & Theory I	R	B	E	P						
ARCH 441 Architectural History & Theory II	R	B	E		H					
• ARCH 442 Contemporary Architecture	R	B	E	H						
• CLAS 182 Alpha Learning Community Freshman Seminar	A	R	S	B	E	P	H		T	L
• CLAS 183 Heros, Harlots & Helots	A	R	S	B	E	P	H		T	L
CLAS 233 Science in the Classical World	A	R	S	B	E	P	H	J	T	L
CLAS 245 War in the Classical World	A	R	S	B	E	P	H	J	T	L
• CLAS 252 Archaeology of the World Civilizations (ANTH 252)	A	R	S	B	E	P	H	J	T	L
CLAS 307 Early Christianity (HIST, RELG 307)	A	R	S	B	E	P	H	J	T	L
CLAS 331 Ancient Israel (HIST, JUDS, RELG 331)	A	R	S	B	E	P	H	J	T	L
• COMM 220 Intro to Public Discourse	R	S	B	E	P	H	J	T	L	
• DANC 159 Intro to History of Dance			B	E	P	H				
ETHN 150 African Culture & Civilization (HIST 150)	A	R	S	B	E	P	H	J	T	

ETHN 171 Latin American Culture & Civilization (HIST 171)	A	R	S	B	E	P	H	J	T	
ETHN 241 Native American History (HIST 241)	A	R	S	B	E	P	H	J	T	
• ETHN 242 Native American Women (HIST, WMNS 242)	A	R	S	B	E		H	J	T	L
ETHN 306 African American History: African Origins to 1877 (HIST 306)	A	R	S	B	E	P	H	J	T	
ETHN 309 African American History: After 1877 (HIST 309)	A	R	S	B	E	P	H	J	T	
ETHN 356 Race & Ethnicity in the American West (HIST 356)	A	R	S	B	E	P	H	J	T	
ETHN 357 History & Culture of the Mexican American (HIST 357)	A	R	S	B	E	P	H	J	T	
ETHN 370 Colonial Mexico (HIST 370)	A	R	S	B	E	P	H	J	T	
ETHN 371 Modern Mexico (HIST 371)	A	R	S	B	E	P	H	J	T	
• ETHN 485 Africa Since 1800 (HIST 485)	A	R	S	B	E	P	H	J	T	
ETHN 486 History of South Africa (HIST 486)	A	R	S	B	E	P	H	J	T	
• FREN 321 French Civilization I	A	R	S	B	E	P	H	J	T	
• FREN 322 French Civilization II	A	R	S	B	E	P	H	J	T	
GEOG 334 Historical Geography of the Great Plains	A	R	S	B	E	P	H	J	T	
• GERM 321 German Civilization I	A	R	S	B	E	P	H	J		
• GERM 322 German Civilization II	A	R	S	B	E	P	H	J		
HIST 100 Western Civilization to 1715	A	R	S	B	E	P	H	J	L	
• HIST 100H Honors: Western Civilization to 1715	A	R	S	B	E	P	H	J	L	
HIST 101 Western Civilization Since 1715	A	R	S	B	E	P	H	J	L	
• HIST 101H Honors: Western Civilization Since 1715	A	R	S	B	E	P	H	J	L	
• HIST 105 American Ways (POLS 105)	A	R	S	B	E	P	H	J		
• HIST 120 World History to 1500 CE	A	R	S	B	E	P	H	J	L	
• HIST 121 World History Since 1500 CE	A	R	S	B						
HIST 150 African Culture & Civilization (ETHN 150)	A	R	S	B	E	P	H	J	T	
HIST 171 Latin American Culture & Civilization (ETHN 171)	A	R	S	B	E	P	H	J	T	
HIST 181 Intro to East Asian Civilization (POLS 171)	A	R	S	B	E	P	H	J		
• HIST 182 Alpha Learning Community Freshman Seminar	A	R	S	B	E	P	H			
• HIST 189H University Honors Seminar	A	R	S	B	E	P	H	J		
HIST 201 American History to 1877	A	R	S	B	E	P	H	J	T	
• HIST 201H Honors: American History to 1877	A	R	S	B	E	P	H	J	T	
HIST 202 American History After 1877	A	R	S	B	E	P	H	J	T	
• HIST 202H Honors: American History After 1877	A	R	S	B	E	P	H	J	T	
HIST 205 History of Canada	A	R	S	B	E	P	H	J	T	
HIST 205H Honors: History of Canada	A	R	S	B	E	P	H	J	T	
HIST 209 Ancient Greece	A	R	S	B	E	P	H	J		
HIST 210 Ancient Rome	A	R	S	B	E	P	H	J		
HIST 211 History of the Middle Ages	A	R	S	B	E	P	H	J		
HIST 212 History of Early Modern Europe: Renaissance to French Revolution	A	R	S	B	E	P	H	J		
HIST 217 Israel: The Holy Land (JUDS, RELG 217)	A	R	S	B	E	P	H	J		
HIST 218 History of Islam	A	R	S	B	E	P	H	J		
HIST 219 Intro to Jewish History (JUDS, RELG 219)	A	R	S	B	E	P	H	J	L	
HIST 220 History of Christianity	A	R	S	B	E	P	H	J		
HIST 221 Science in History	A	R	S	B	E	P	H	J		
HIST 222 History of Sport	A	R	S	B	E	P	H	J		
HIST 225 Women in History	A	R	S	B	E	P	H	J		
HIST 228 History of Medicine in Western Society	A	R	S	B						
HIST 231 History of England: Stonehenge through the Glorious Revolution	A	R	S	B	E	P	H	J		
HIST 232 History of England: Since the Glorious Revolution	A	R	S	B	E	P	H	J		
HIST 241 Native American History (ETHN 241)	A	R	S	B	E	P	H	J	T	
• HIST 242 Native American Women (ETHN, WMNS 242)	A	R	S	B	E		H	J	T	L
HIST 261 Russia to the Era of Catherine the Great	A	R	S	B	E	P	H	J		
HIST 262 Russia: The 19th & Twentieth Centuries	A	R	S	B	E	P	H	J		

HIST 271 The Latin American Colonies	A	R	S	B	E	P	H	J				
HIST 272 The Latin American Republics	A	R	S	B	E	P	H	J				
HIST 282 Modern East Asia	A	R	S	B	E	P	H	J				
HIST 303 United States Military History 1607-1917	A	R	S	B	E	P	H	J				
HIST 304 United States Military History Since 1917	A	R	S	B	E	P	H	J				
HIST 306 African American History: African Origins to 1877 (ETHN 306)	A	R	S	B	E	P	H	J				
HIST 307 Early Christianity (CLAS, RELG 307)	A	R	S	B	E	P	H	J	T	L		
HIST 308 History of Comparative Religion (RELG 308)	A	R	S	B	E	P	H	J	T			
HIST 309 African American History: After 1877 (ETHN 309)	A	R	S	B	E	P	H	J	T			
HIST 329 Women in European History (WMNS 329)	A	R	S	B	E	P	H	J	T			
HIST 331 Ancient Israel (CLAS, JUDS, RELG 331)	A	R	S	B	E	P	H	J	T	L		
HIST 332 Jews in the Middle Ages (JUDS, RELG 332)	A	R	S	B	E	P	H	J				
HIST 333 Jews in the Modern World (JUDS 333)	A	R	S	B	E	P	H	J				
HIST 339 The Holocaust	A	R	S	B	E	P	H	J				
HIST 343 American Urban & Social History I	A	R	S	B	E	P	H	J				
HIST 344 American Urban & Social History II	A	R	S	B	E	P	H	J				
HIST 346 North American Environmental History	A	R	S	B	E	P	H	J				
HIST 349 Ideas in America to the Civil War	A	R	S	B	E	P	H	J				
HIST 350 Ideas in America Since the Civil War	A	R	S	B	E	P	H	J				
HIST 356 Race & Ethnicity in the American West (ETHN 356)	A	R	S	B	E	P	H	J	T			
HIST 357 History & Culture of the Mexican American (ETHN 357)	A	R	S	B	E	P	H	J	T			
HIST 370 Colonial Mexico (ETHN 370)	A	R	S	B	E	P	H	J	T			
HIST 371 Modern Mexico (ETHN 371)	A	R	S	B	E	P	H	J	T			
HIST 372 Revolutions in Twentieth Century Latin America	A	R	S	B	E	P	H	J				
HIST 381 History of Premodern Japan	A	R	S	B	E	P	H	J				
HIST 382 History of Modern Japan	A	R	S	B	E	P	H	J				
HIST 383 History of Premodern China	A	R	S	B	E	P	H	J				
• HIST 402 Sexuality in 19th & Twentieth Century America (WMNS 402)	A	R	S	B								
• HIST 441 Women & Gender in the USA (WMNS 441)	A	R	S	B								
• HIST 485 Africa Since 1800 (ETHN 485)	A	R	S	B	E	P	H	J	T			
HIST 486 History of South Africa (ETHN 486)	A	R	S	B	E	P	H	J	T			
• IDES 445 History of Furniture	R	B	E		H							
• JUDS 205 Intro to the Hebrew Bible/Old Testament (RELG 205)	A	R	S	B	E	P	H	J				
JUDS 217 Israel: The Holy Land (HIST, RELG 217)	A	R	S	B	E	P	H	J				
JUDS 219 Intro to Jewish History (HIST, RELG 219)	A	R	S	B	E	P	H	J	T	L		
JUDS 331 Ancient Israel (CLAS, HIST, RELG 331)	A	R	S	B	E	P	H	J	T	L		
JUDS 332 Jews in the Middle Ages (HIST, RELG 332)	A	R	S	B	E	P	H	J				
JUDS 333 Jews in the Modern World (HIST 333)	A	R	S	B	E	P	H	J				
• LAMS 331 Latin American Civilization (SPAN 331)	A	R	S	B	E	P	H	J				
LARC 241 History of Landscape Architecture	R	S	B									
• MUNM 287 History of Rock Music	R	B	E	P	H							
• NRES 385 Women, Gender & Science (AGRI, WMNS 385)	A	R	S	B	E		H	J				
• PHIL 223 Intro to Philosophy of History	A	R	S	B	E	P	H	J				
• PHIL 231 History of Philosophy (Ancient)	A	R	S	B	E	P	H	J				
• PHIL 232 History of Philosophy (Modern)	A	R	S	B	E	P	H	J				
• PHIL 336 Ethics: Ancient & Medieval	A	R	S	B	E	P	H	J				
• PHIL 337 Knowledge: Ancient & Medieval	A	R	S	B	E	P	H	J				
• PHIL 338 Metaphysics: Ancient & Medieval	A	R	S	B	E	P	H	J				
• POLS 105 American Ways (HIST 105)	A	R	S	B	E	P	H	J				
POLS 108 Political Ideas	A	R	S	B	E	P	H	J				
POLS 171 Intro to East Asian Civilization (HIST 181)	A	R	S	B	E	P	H	J				
POLS 380 American Political Thought	A	R	S	B	E	P	H	J				
• RELG 182 Alpha Learning Community Freshman Seminar	A		S	B	E	P	H					
• RELG 205 Intro to the Hebrew Bible/Old Testament (JUDS 205)	A	R	S	B	E	P	H	J				
• RELG 206 Ways of Western Religion	A	R	S	B	E	P	H	J				
• RELG 208 Intro to Islam	A		S	B	E		H					
RELG 217 Israel: The Holy Land (HIST, JUDS 217)	A	R	S	B	E	P	H	J				
RELG 219 Intro to Jewish History (HIST, JUDS 219)	A	R	S	B	E	P	H	J	T	L		
RELG 307 Early Christianity (CLAS, HIST 307)	A	R	S	B	E	P	H	J	T	L		
RELG 308 History of Comparative Religion (HIST 308)	A	R	S	B	E	P	H	J	T			
RELG 331 Ancient Israel (CLAS, HIST, JUDS 331)	A	R	S	B	E	P	H	J	T	L		
RELG 332 Jews in the Middle Ages (HIST, JUDS 332)	A	R	S	B	E	P	H	J				
• SPAN 321 Spanish Civilization	A	R	S	B	E	P	H	J				
• SPAN 331 Latin American Civilization (LAMS 331)	A	R	S	B	E	P	H	J				
• TXCD 407 History of Costume	R	B	E	P	H							
• TXCD 408 History of Textiles	R	B	E	P	H							
• WMNS 242 Native American Women (HIST, ETHN 242)	A	R	S	B	E		H	J	T	L		
WMNS 329 Women in European History (HIST 329)	A	R	S	B	E	P	H	J	T			
WMNS 385 Women, Gender & Science (AGRI, NRES 385)	A	R	S	B	E		H	J				
WMNS 402 Sexuality in 19th & Twentieth Century America (HIST 402)	A	R	S	B								
WMNS 441 Women & Gender in the USA (HIST 441)	A	R	S	B								
<b>IS F. Humanities (3 hours)</b>	A	R	S	B	E	P	H	J	T	L		
• AECN 388 Ethics in Agriculture & Natural Resources (ALEC 388)	A	R	S	B	E	P	H					
• ALEC 189H University Honors Seminar	A		B	E	P	H						
• ALEC 388 Ethics in Agriculture & Natural Resources (AECN 388)	A	R	S	B	E	P	H					
• ALEC 410 Environmental Leadership (NRES 413)	A	R		B	E		H					
• ALEC 414 Classic Figures in Leadership	A		B	E		H						
CLAS 141 Spectacle & Entertainment in the Roman World	A	S	B									
CLAS 180 Classical Mythology	A	R	S	B	E	P	H	J	T	L		
CLAS 182 Alpha Learning Community Freshman Seminar	A	R	S	B	E	P	H					
• CLAS 183 Heros, Harlots & Helots	A	R	S	B	E	P	H					
• CLAS 189H University Honors Seminar	A	R	S	B	E	P	H	J	T	L		
• CLAS 281 The World of Classical Greece (ENGL 240A)	A	R	S	B	E	P	H	J	T	L		
• CLAS 282 The World of Classical Rome (ENGL 240B)	A	R	S	B	E	P	H	J	T	L		
• CLAS 283 Epic Tales: The World's Heros & Gods	A	R	S	B	E	P	H	J	T	L		
CLAS 286 Literature of the Ancient Near East	A	R	S	B	E	P	H	J	T	L		
CLAS 305 Ancient Greek Religions (RELG 305)	A	R	S	B	E	P	H	J	T	L		
CLAS 307 Early Christianity (HIST, RELG 307)	A	R	S	B	E	P	H	J	T	L		
CLAS 312 Pagans & Christians in the Roman Empire (RELG 312)	A	R	S	B	E		H	J	T	L		
CLAS 381 Ancient Novel (ENGL 381)	A	R	S	B	E	P	H	J	T	L		
• CLAS 409 Religion of Late Western Antiquity (HIST, RELG 409)	A	R	S	B	E	P	H	J	T	L		
CLAS 483 Classical Drama (ENGL 440)	A	R	S	B	E	P	H	J	T	L		
COMM 205 Performance of Literature	A	R	S	B	E	P	H	J	T	L		
• COMM 220 Intro to Public Discourse	A	R	S	B	E	P	H	J	T	L		
CZEC 301 Representative Authors I	A	S	B	E	P	J						
CZEC 302 Representative Authors II	A	S	B	E	P	J						
• ENGL 180 Intro to Literature	A	R	S	B	E	P	H	J	T	L		
• ENGL 189H University Honors Seminar	A	R	S	B	E	P	H	J	T	L		
• ENGL 200 Intro to English Studies	A	R	S	B	E		H	J	T	L		
• ENGL 201A Intro to Drama	A	R	S	B	E	P	H	J	T	L		

ENGL 201B Twentieth Century Drama	A	R	S	B	E	P	H	J	T	L
ENGL 202 Modern British & American Poetry	A	R	S	B	E	P	H	J	T	L
ENGL 202A Intro to Poetry	A	R	S	B	E	P	H	J	T	L
ENGL 205 Twentieth Century Fiction	A	R	S	B	E	P	H	J	T	L
ENGL 205D Fiction Since 1950	A	R	S	B	E		H	J		
ENGL 209 Film: The Documentary	A	R	S	B	E	P	H	J	T	L
ENGL 210 Themes in Literature	A	R	S	B	E		H			
ENGL 210I Illness & Health in Literature	A	R	S	B	E	P	H	J	T	L
ENGL 210L Arthur in Legend & Literature	A	R	S	B	E		H	J		
ENGL 210P Literature of War & Peace	A	R	S	B	E		H	J		
ENGL 210T Stories & Human Experience	A	R	S	B	E	P	H	J	T	L
ENGL 211A Plains Literature	A	R	S	B	E	P	H	J	T	L
ENGL 212 Intro to Lesbian & Gay Literature (WMNS 212)	A	R	S	B	E	P	H	J	T	L
ENGL 213E Intro to Film History	A	R	S	B	E	P	H	J	T	L
ENGL 215 Intro to Women's Literature (WMNS 215)	A	R	S	B	E	P	H	J	T	L
ENGL 216A Children's Literature	A	R	S	B	E	P	H	J	T	L
ENGL 219 Film Genre	A	R	S	B	E	P	H	J	T	L
ENGL 230 English Authors to 1800	A	R	S	B	E	P	H	J	T	L
ENGL 230A Shakespeare	A	R	S	B	E	P	H	J	T	L
ENGL 231 English Authors After 1800	A	R	S	B	E	P	H	J	T	L
ENGL 232 The Jewish Idea in Modern Literature (MODL 232)	A	R	S	B	E	P	H	J	T	L
ENGL 234D Major Themes in World Literature (MODL 234D)	A	R	S	B	E	P	H	J	T	L
ENGL 239 Filmmakers	A	R	S	B	E	P	H	J		
ENGL 239B Women Filmmakers (WMNS 239B)	A	R	S	B	E	P	H	J		
ENGL 240A The World of Classical Greece (CLAS 281)	A	R	S	B	E	P	H	J	T	L
ENGL 240B The World of Classical Rome (CLAS 282)	A	R	S	B	E	P	H	J	T	L
ENGL 243B Literature of India	A	R	S	B	E	P	H	J	T	L
ENGL 244 African American Literature (ETHN 244)	A	R	S	B	E	P	H	J	T	L
ENGL 244A Intro to African Literature (ETHN 244A)	A	R	S	B	E	P	H	J	T	L
ENGL 244B Black Women Authors (ETHN, WMNS 244B)	A	R	S	B	E	P	H	J	T	L
ENGL 244D African Caribbean Literature (ETHN 244D)	A	R	S	B	E	P	H	J	T	L
ENGL 244E Early African American Literature (ETHN 244E)	A	R	S	B	E	P	H	J	T	L
ENGL 245A Intro to Asian American Literature & Culture (ETHN 245A)	A	S	B	E	P	H	J	T	L	
ENGL 245B Native American Literature (ETHN 245B)	A	R	S	B	E	P	H	J	T	L
ENGL 245D Chicana and/or Chicano Literature (ETHN 245D)	A	R	S	B	E	P	H	J	T	L
ENGL 245J Jewish-American Fiction (JUDS 245J)	A	R	S	B	E	P	H	J	T	L
ENGL 245K Canadian Literature	A	R	S	B	E	P	H	J	T	L
ENGL 245N Native American Women Writers	A	R	S	B	E	P	H	J	T	L
ENGL 247 Literature & Arts on the Plains	A	R	S	B	E	P	H	J	T	L
ENGL 269 Film Period	A	R	S	B	E		H	J		
ENGL 270 Literary/Critical Theory	A	R	S	B			H	J		
ENGL 275 Intro to Rhetorical Theory	A	R	S	B		P	H	J	T	L
ENGL 278 Intro to Humanities Computing	A	S	B		P		J			
ENGL 282 Literature & the Other Arts	A	R	S	B	E	P	H	J	T	L
ENGL 283 Contemporary Culture	A	R	S	B	E		H	J		
ENGL 285 Intro to Comparative Literature (MODL 285)	A	R	S	B	E	P	H	J	T	L
ENGL 303 Short Story	A	R	S	B	E	P	H	J	T	L
ENGL 305A The Novel 1700-1900	A	R	S	B	E	P	H	J	T	L
ENGL 311D Literature of Socialism	A	R	S	B	E	P	H	J	T	L
ENGL 311G Revolution & Romanticism	A	R	S	B	E		H	J	T	L
ENGL 315A Survey of Women's Literature (WMNS 315A)	A	R	S	B	E	P	H	J	T	L
ENGL 315B Women in Popular Culture (WMNS 315B)	A	R	S	B	E	P	H	J	T	L
ENGL 330E Chaucer, Shakespeare, Milton	A	R	S	B	E	P	H	J	T	L
ENGL 333M American Literary Traditions	A	R	S	B	E	P	H	J	T	L
ENGL 340 Classical Roots of English Literature	A	R	S	B	E	P	H	J	T	L
ENGL 341 The Bible as Literature	A	R	S	B	E	P	H	J	T	L
ENGL 342A Irish Literature	A	R	S	B	E	P	H	J	T	L
ENGL 344 Ethnicity & Film (ETHN 344)		S	B							
ENGL 347 Humanities on the Plains	A	R	S	B	E	P	H	J	T	L
ENGL 361A Intro to Early American Literature	A	S	B	E	P	H	J	T	L	
ENGL 361B Intro to Late American Literature	A	R	S	B	E	P	H	J	T	L
ENGL 362 Intro to Medieval Literature	A	R	S	B	E	P	H	J	T	L
ENGL 363 Intro to Renaissance Literature	A	R	S	B	E	P	H	J	T	L
ENGL 364 Intro to Restoration & 18th Century Literature	A	R	S	B	E	P	H	J	T	L
ENGL 365 Intro to 19th Century British Literature	A	R	S	B	E	P	H	J	T	L
ENGL 373 Film Theory & Criticism	A	R	S	B	E	P	H	J	T	L
ENGL 381 Ancient Novel (CLAS 381)	A	R	S	B	E	P	H	J	T	L
ENGL 410 Studies in Literary Movements	A	S	B	E	P		J			
ENGL 440 Classical Drama (CLAS 483)	A	R	S	B	E	P	H	J	T	L
ETHN 189H University Honors Seminar	A	R	S	B	E	P	H	J	T	L
ETHN 244 African American Literature (ENGL 244)	A	R	S	B	E	P	H	J	T	L
ETHN 244A Intro to African Literatures (ENGL 244A)	A	R	S	B	E	P	H	J	T	L
ETHN 244B Black Women Authors (ENGL, WMNS 244B)	A	R	S	B	E	P	H	J	T	L
ETHN 244D African Caribbean Literature (ENGL 244D)	A	R	S	B	E	P	H	J	T	L
ETHN 244E Early African American Literature (ENGL 244E)	A	R	S	B	E	P	H	J	T	L
ETHN 245A Intro to Asian American Literature & Culture (ENGL 245A)	A	S	B	E	P	H	J	T	L	
ETHN 245B Native American Literature (ENGL 245B)	A	R	S	B	E	P	H	J	T	L
ETHN 245D Chicana and/or Chicano Literature (ENGL 245D)	A	R	S	B	E	P	H	J	T	L
ETHN 344 Ethnicity & Film (ENGL 344)		S	B							
FREN 282 French Literature in Translation	A	R	S	B	E	P	H	J	T	L
FREN 301 Representative Authors I	A	R	S	B	E	P	H	J	T	L
FREN 302 Representative Authors II	A	R	S	B	E	P	H	J	T	L
GERM 282 German Literature in Translation	A	R	S	B	E	P	H	J	T	L
GERM 301 Representative Authors I	A	R	S	B	E	P	H	J	T	L
GERM 302 Representative Authors II	A	R	S	B	E	P	H	J	T	L
HIST 307 Early Christianity (CLAS, RELG 307)	A	R	S	B	E	P	H	J	T	L
HIST 349 Ideas in America to the Civil War	A	R	S	B	E	P	H	J	T	L
HIST 350 Ideas in America Since the Civil War	A	R	S	B	E	P	H	J	T	L
HIST 409 Religion of Late Western Antiquity (CLAS, RELG 409)	A	R	S	B	E	P	H	J	T	L
JUDS 177 The Holocaust in Literature & Film (MODL 177)	A	R	S	B	E	P	H	J	T	L
JUDS 205 Intro to the Hebrew Bible/Old Testament (RELG 205)	A	R	S	B	E	P	H	J	T	L
JUDS 209 Judaism & Christianity in Conflict & Co-existence (RELG 209)	A	R	S	B	E	P	H	J	T	L
JUDS 245J Jewish-American Fiction (JUDS 245J)	A	R	S	B	E	P	H	J	T	L
JUDS 334 Jews, Christians & the Bible (RELG 334)	A	R	S	B	E	P	H	J		
JUDS 340 Women in the Biblical World (RELG, WMNS 340)	A	R	S	B	E	P	H	J	T	L
JUDS 345 Modern European Jewish Philosophy (PHIL 345)	A	S	B	E	P		J			
JUDS 350 Literature of Judaism	A	R	S	B	E	P	H	J	T	L
LAMS 311 Representative Spanish-American Authors I (SPAN 311)	A	R	S	B	E	P	H	J	T	L

• LAMS 312 Representative Spanish-American Authors II (SPAN 312)	A R S B E P H J T L	RELG 305 Ancient Greek Religions (CLAS 305)	A R S B E P H J T L
• LAMS 331 Latin American Civilization (SPAN 331)	A R S B E P H J T L	RELG 307 Early Christianity (CLAS, HIST 307)	A R S B E P H J T L
LARC 241 History of Landscape Architecture	R S B	RELG 310 Great Ideas in Religious Thought: From God to Nothingness	A R S B E P H J
MODL 177 The Holocaust in Literature & Film (JUDS 177)	A R S B E P H J T L	RELG 312 Pagans & Christians in the Roman Empire (CLAS 312)	A R S B E H J T L
• MODL 189H University Honors Seminar	A R S B E P H J T L	RELG 318 Islam in the Modern World	A S B E P J T
MODL 232 The Jewish Idea in Modern Literature (ENGL 232)	A R S B E P H J T L	RELG 334 Jews, Christians & the Bible (JUDS 334)	A R S B E P H J
MODL 234D Major Themes in World Literature (ENGL 234D)	A R S B E P H J T L	RELG 340 Women in the Biblical World (JUDS, WMNS 340)	A R S B E P H J T L
MODL 285 Intro to Comparative Literature (ENGL 285)	A R S B E P H J T L	RELG 409 Religion of Late Western Antiquity (CLAS, HIST 409)	A R S B E P H J T L
• NRES 413 Environmental Leadership (ALEC 410)	A R B E H	RUSS 301 Representative Authors I	A R S B E P H J T L
• PHIL 101 Intro to Philosophy	A R S B E P H J T L	RUSS 302 Representative Authors II	A R S B E P H J T L
• PHIL 106 Philosophy & Current Issues	A R S B E P H J T L	RUSS 482 Russian Literature in Translation I	A R S B E P H J T L
• PHIL 110 Intro to Logic & Critical Thinking	A R S B E P H J T	• RUSS 483 Russian Literature in Translation II	A R S B E P H J T L
• PHIL 116 Philosophy & Religious Belief	A R S B E P H J T L	SPAN 264 Spanish-American Literature in Translation I	A R S B E P H J T L
• PHIL 189H University Honors Seminar	A R S B E H	SPAN 265 Spanish-American Literature in Translation II	A R S B E P H J T L
• PHIL 213 Medical Ethics	A R S B E P H J T L	• SPAN 305 Literary Analysis in Spanish	A R S B E P H J T L
• PHIL 218 Philosophy of Feminism (WMNS 218)	A R S B E P H J	• SPAN 311 Representative Spanish-American Authors I (LAMS 311)	A R S B E P H J T L
• PHIL 220 Elements of Ethics	A R S B E P H J T L	• SPAN 312 Representative Spanish-American Authors II (LAMS 312)	A R S B E P H J T L
PHIL 221 Political Philosophy	A R S B E P H J T L	• SPAN 314 Representative Authors of Spain I	A R S B E P H J T L
• PHIL 221H Honors: Political Philosophy	A R S B E P H J T L	• SPAN 315 Representative Authors of Spain II	A R S B E P H J T L
• PHIL 223 Intro to the Philosophy of History	A R S B E P H J T L	• SPAN 331 Latin American Civilization (LAMS 331)	A R S B E P H J T L
• PHIL 230 Philosophy of Law	A R S B E P H J T L	• WMNS 101 Intro to Women's & Gender Studies	A R S B E P H J T L
• PHIL 231 History of Philosophy (Ancient)	A R S B E P H J T L	• WMNS 189H University Honors Seminar	A R S B E P H J T L
• PHIL 232 History of Philosophy (Modern)	A R S B E P H J T L	• WMNS 212 Intro to Lesbian & Gay Literature (ENGL 212)	A R S B E P H J T L
PHIL 265 Philosophy of Religion	A R S B E P H J T L	• WMNS 215 Intro to Women's Literature (ENGL 215)	A R S B E P H J T L
• PHIL 301 Theory of Knowledge	A R S B E P H J T L	• WMNS 218 Philosophy of Feminism (PHIL 218)	A R S B E P H J
• PHIL 302 Intro to Metaphysics	A R S B E P H J T L	• WMNS 239B Women Filmmakers (ENGL 239B)	A R S B E P H J
• PHIL 314 Problems in the Philosophy of Mind	A R S B E P H J T L	• WMNS 244B Black Women Authors (ETHN, ENGL 244B)	A R S B E P H J T L
PHIL 317 Philosophy of Science	A R S B E P H J T L	• WMNS 315A Survey of Women's Literature (ENGL 315A)	A R S B E P H J T L
• PHIL 320 Ethical Theory	A R S B E P H J T L	• WMNS 315B Women in Popular Culture (ENGL 315B)	A R S B E P H J T L
• PHIL 323 Topics in Applied Ethics	A R S B E P H J T L	• WMNS 340 Women in the Biblical World (RELG, JUDS 340)	A R S B E P H J T L
• PHIL 325 Advanced Social Political Philosophy	A R S B E P H J T L		
• PHIL 327 Aesthetics	A R S B E P H J T L		
• PHIL 332 Spinoza	A R S B E P H J T L		
• PHIL 336 Ethics: Ancient & Medieval	A R S B E P H J	IS G. Arts (3 hours)	A R S B E P H J T L
• PHIL 337 Knowledge: Ancient & Medieval	A R S B E P H J	AHIS 101 Intro to Art History & Criticism I	A R S B E P H J T L
• PHIL 338 Metaphysics: Ancient & Medieval	A R S B E P H J	AHIS 102 Intro to Art History & Criticism II	A R S B E P H J T L
PHIL 340 Contemporary Analytical Philosophy	A R S B E P H J T L	• AHIS 189H University Honors Seminar	A B E P H J T L
• PHIL 341 Contemporary Continental Philosophy	A R S B E P H J T L	AHIS 211 Classical Art & Archaeology	A R S B E P H J T L
• PHIL 342 American Philosophy	A R S B E P H J T	AHIS 216 Medieval Art	A R S B E P H J T L
• PHIL 345 Modern European Jewish Philosophy (JUDS 345)	A S B E P J	AHIS 221 Italian Renaissance Art	A R S B E P H J T L
RELG 108 World Religions	S B	AHIS 226 Northern Renaissance Art	A R S B E P H J T L
RELG 125W Religion, Peace, & Social Justice	A S B E H J	AHIS 231 Baroque Art	A R S B E P H J T L
RELG 130W Women & Religion	A S B E H J	AHIS 246 Modern Art	A R S B E P H J T L
RELG 134W Religious Diversity in the United States	A S B E H J	AHIS 251 American Art to 1865	A R S B E P H J T L
• RELG 150 Explaining Religion	A R S B E P H J	AHIS 252 American Art 1865-1945	A R S B E P H J T L
RELG 181 Judaism, Christianity & Islam	A R S B E P H J T L	AHIS 256 Latin American Art	A R S B E P H J T L
RELG 182 Alpha Learning Community Freshman Seminar	A R S B E P H	AHIS 261 Oriental Art: India, Ceylon, Java, Japan	A R S B E P H J T L
RELG 189H University Honors Seminar	A R S B E P H	AHIS 262 Oriental Art: China, Korea, Southeast Asia	A R S B E P H J T L
RELG 205 Intro to the Hebrew Bible/Old Testament (JUDS 205)	A R S B E P H J T L	AHIS 341 European Art of the 19th Century	A R S B E P H J T L
RELG 206 Ways of the Western Religion	A R S B E P H J T L	AHIS 388 Arts of the Twentieth Century: 1900-1945 (MUNM, THEA 388)	A R S B E P H J T L
RELG 208 Intro to Islam	A R S B E H J T L	AHIS 389 Arts of the Twentieth Century: 1945-Present (MUNM, THEA 389)	A R S B E P H J T L
RELG 209 Judaism & Christianity in Conflict & Co-existence (JUDS 209)	A R S B E P H J T L		
RELG 212W Life & Letters of Paul	A S B E H J		
RELG 220 Reason & Religion	A R S B E P H J T L		
• RELG 225 Science & Religion	A R S B E P H J T L		

AHIS 471 History of Photography	A	R	S	B	E	P	H	J	T	L
ARCH 106 Intro to Design (IDES 106)		R	S	B	E	P	H		T	L
ARCH 240 Architectural History & Theory I	R		B	E	P					
• ARCH 340 Architectural History & Theory I	R		B	E	P					
ARCH 441 Architectural History & Theory II	R		B	E	P					
• ARCH 442 Contemporary Architecture	R		B	E	P					
• ARTP 189H University Honors Seminar			B	E	P					
CERM 131 Intro to Ceramics	R	S	B		P	H		T	L	
CERM 231 Beginning Ceramics	R	S	B		P	H		T	L	
CERM 231H Honors: Beginning Ceramics	R	S	B		P	H		T	L	
CERM 232 Intermediate Ceramics I	R	S	B		P	H		T	L	
• COMM 212 Debate	R	S	B		P	H		T	L	
• DANC 159 Intro to History of Dance	A	R	S	B	E	P	H	J	T	L
• DANC 349 History of Dance: Twentieth Century & Beyond	A	R	S	B	E	P	H	J	T	L
DRAW 101 Beginning Drawing	A	R	S	B		P	H		T	L
DRAW 201 Intermediate Drawing		R	S	B		P	H		T	L
DRAW 202 Life Drawing		R	S	B		P	H		T	L
• ENGL 252 Intro to Writing of Fiction	A	R	S	B		P	H		T	L
• ENGL 253 Intro to Writing of Poetry	A	R	S	B		P	H		T	L
• ENGL 259A Writing for Films	A	R	S	B		P	H		T	L
• GEOG 200 Landscape & Environmental Appreciation (HORT, LARC 200)		R	S	B		P	H		T	L
GRPH 221 Beginning Graphic Design	A	R	S	B		P	H		T	L
GRPH 223 Basic Typography	A	R	S	B		P	H		T	L
• HORT 200 Landscape & Environmental Appreciation (GEOG, LARC 200)		R	S	B	E	P	H		T	L
• HORT 261 Floral Design I		R	S	B	E		H		T	L
HORT 262 Floral Design II		R	B	E		H		T	L	
HORT 266 Intro to Landscape Design (LARC 266)	R	B		H		H		T	L	
IDES 106 Intro to Design (ARCH 106)	R	S	B	E	P	H		T	L	
• LARC 200 Landscape & Environmental Appreciation (HORT, GEOG 200)		R	S	B	E	P	H		T	L
LARC 266 Intro to Landscape Design (HORT 266)	R	B		H		H		T	L	
MUED 450 American Cultural Perspectives										
• through Popular Music & Guitar (TEAC, MUNM 450)	A	R	S	B	E	P	H	J	T	L
MUNM 275 Music in Film		S	B		P					
• MUNM 276G The Music Experience	A	R	S	B	E	P	H	J	T	L
MUNM 277 Art Music in the Western World (MUSC 277)	A	R	S	B	E	P	H	J	T	L
• MUNM 280 World Music (MUSC 280)	A	R	S	B	E	P	H	J	T	L
• MUNM 287 The History of Rock Music	A	R	S	B	E	P	H	J	T	L
• MUNM 301 Music & Sports Performance & Perception			B	E	P					
• MUNM 370H Honors: Women Making Music (MUSC 370H)	A	R	S	B	E	P	H	J	T	L
MUNM 387 History of American Jazz	A	R	S	B	E	P	H	J	T	L
MUNM 388 Arts of the Twentieth Century: 1900-1945 (AHIS, THEA 388)	A	R	S	B	E	P	H	J	T	L
MUNM 389 Arts of the Twentieth Century: 1945-Present (AHIS, THEA 389)	A	R	S	B	E	P	H	J	T	L
MUNM 450 American Cultural Perspectives										
• through Popular Music & Guitar (TEAC, MUED 450)	A	R	S	B	E	P	H	J	T	L
MUSC 101 Intro to Music	A	R	S	B	E	P	H	J	T	L
MUSC 189H University Honors Seminar	A	R	B	E	P	H	J	T	L	
MUSC 277 Art Music in the Western World (MUNM 277)	A	R	S	B	E	P	H	J	T	L
• MUSC 280 World Music (MUNM 280)	A	R	S	B	E	P	H	J	T	L
• MUSC 365 Music History & Literature I	A	R	S	B	E	P	H	J	T	L
• MUSC 366 Music History & Literature II	A	R	S	B	E	P	H	J	T	L
• MUSC 370H Honors: Women Making Music (MUNM 370H)	A	R	S	B	E	P	H	J	T	L
PANT 251 Beginning Painting I	A	R	S	B		P	H		T	L
PANT 252 Beginning Painting II	A	R	S	B		P	H		T	L

PHOT 161 Beginning Photography I		R	S	B		P	H		T	L
PHOT 261 Beginning Photography II	A	R	S	B		P	H		T	L
PHOT 262 Intermediate Photography		R	S	B		P	H		T	L
PHOT 263 Color Photography	A	R	S	B		P	H		T	L
PRNT 241 Beginning Printmaking I		R	S	B		P	H		T	L
PRNT 242 Beginning Printmaking II		R	S	B		P	H		T	L
SCLP 211 Beginning Sculpture I		R	S	B		P	H		T	L
SCLP 212 Beginning Sculpture II		R	S	B		P	H		T	L
TEAC 450 American Cultural Perspectives										
• through Popular Music & Guitar (MUED, MUNM 450)	A	R	S	B	E	P	H	J	T	L
• THEA 112G Intro to Theatre	A	R	S	B	E	P	H	J	T	L
• THEA 112H Honors: Intro to Theatre	A	R	S	B	E	P	H	J	T	L
THEA 114 Basic Acting Techniques I		R	S	B		P	H		T	L
THEA 201 Technical Theatre Practice		R	S	B		P	H		T	L
• THEA 234 Scripts in Performance	A	R	S	B		P	H		T	L
THEA 331 Intro to Playwriting	A	R	S	B		P	H		T	L
• THEA 335 History of Theatre I	A	R	S	B	E	P	H	J	T	L
• THEA 336 History of Theatre II	A	R	S	B	E	P	H	J	T	L
THEA 388 Arts of the Twentieth Century: 1900-1945 (AHIS, MUNM 388)	A	R	S	B	E	P	H	J	T	L
THEA 389 Arts of the Twentieth Century: 1945-Present (AHIS, MUNM 389)	A	R	S	B	E	P	H	J	T	L
THEA 440 Continental Drama	A	R	B	E	P	H	J	T	L	
• THEA 472 Theatre Perspectives	A	R	B		P	H				
• THEA 480 Technological Innovations in Film Production	A	R	B	E	P	H	J	T	L	
THEA 481 Screenwriting: The Short Script	A	R	B		P	H				
TXCD 121 Design Essentials	A	R	S	B		P	H		T	L
TXCD 225 Surface Design of Textiles		R	S	B		P	H		T	L
• TXCD 325 Woven & Nonwoven Textile Design		R	S	B		P	H		T	L
WATC 257 Beginning Watercolor I		R	S	B		P	H		T	L
IS H. Race, Ethnicity and Gender (3 hours)	A	R	S	B	E	P	H	J	T	L
• AGRI 385 Women, Gender & Science (NRES, WMNS 385)	A	R	S	B	E		H	J		
• AHIS 366 African Architecture (ARCH, ETHN 347)	A	R	S	B	E		H			
• ALEC 466 Leadership & Diversity in Organizations & Communities	A									
• ANTH 212 Intro to Cultural Anthropology (ETHN 212)	A	R	S	B	E		H			
• ANTH 252 Archaeology of World Civilizations (CLAS 252)	A	R	S	B	E	P	H	J		
ANTH 351 Indigenous Peoples of North America (ETHN 351)	A	R	S	B	E	P	H	J	T	L
ANTH 352 Indigenous Peoples of the Great Plains (ETHN 352)	A	R	S	B	E	P	H	J	T	L
ANTH 362 People & Cultures of Africa (ETHN 362)	A	R	S	B	E	P	H	J	T	L
ANTH 366 People & Cultures of East Asia	A	R	S	B	E	P	H	J	T	L
• ANTH 408 Cross-Cultural Mentoring I (WMNS 408)	R	S	B							
• ANTH 409 Cross-Cultural Mentoring II (WMNS 409)	R	S	B							
• ARCH 347 African Architecture (AHIS 366, ETHN 347)	A	R	S	B	E		H			
• CLAS 182 Alpha Learning Community Freshman Seminar	A	R	S	B	E	P	H			
• CLAS 183 Heros, Harlots & Helots	A	R	S	B	E	P	H			
• CLAS 252 Archaeology of World Civilizations (ANTH 252)	A	R	S	B	E	P	H	J		
• COMM 211 Intercultural Communication (ETHN 211)	A	R	S	B	E	P	H	J	T	L
• COMM 380 Gender & Communication	A	R	S	B	E	P	H	J	T	L
CZEC 301 Representative Authors I	A	S	B	E			J			
CZEC 302 Representative Authors II	A	S	B	E			J			

ECON 375 Women & Work in United States History (HIST, WMNS 375)	A	R	S	E	P	H	J	T	L
• ENGL 212 Intro to Lesbian & Gay Literature (WMNS 212)	A	R	S	B	E	P	H	J	T
• ENGL 215 Intro to Women's Literature (WMNS 215)	A	R	S	B	E	P	H	J	T
ENGL 232 The Jewish Idea in Modern Literature (MODL 232)	A	R	S	B	E	H	J	T	L
• ENGL 239B Women Filmmakers (WMNS 239B)	A	R	S	B	E	P	H	J	
• ENGL 243B Literature of India	A	R	S	B	E	P	H	J	T
• ENGL 244 African American Literature (ETHN 244)	A	R	S	B	E	P	H	J	T
• ENGL 244A Intro to African Literature (ETHN 244A)	A	R	S	B	E	P	H	J	T
• ENGL 244B Black Women Authors (ETHN, WMNS 244B)	A	R	S	B	E	P	H	J	T
• ENGL 244D African Caribbean Literature (ETHN 244D)	A	R	S	B	E	P	H	J	T
• ENGL 244E Early African American Literature (ETHN 244E)	A	R	S	B	E	P	H	J	T
• ENGL 245A Intro to Asian American Literature & Culture (ETHN 245A)	A		S	B	E	P	H	J	T
• ENGL 245B Native American Literature (ETHN 245B)	A	R	S	B	E	P	H	J	T
• ENGL 245D Chicana and/or Chicano Literature (ETHN 245D)	A	R	S	B	E	P	H	J	T
• ENGL 245J Jewish-American Fiction (JUDS 245J)	A	R	S	B	E	P	H	J	T
ENGL 245N Native American Women Writers	A	R	S	B	E	P	H	J	T
ENGL 253A Writing of Poetry: Women's Poetry	A	R	S	B		P	H	J	T
• ENGL 315A Survey of Women's Literature (WMNS 315A)	A	R	S	B	E	P	H	J	T
• ENGL 315B Women in Popular Culture (WMNS 315B)	A	R	S	B	E	P	H	J	T
• ENGL 344 Ethnicity & Film (ETHN 344)	A		S	B					
• ENGL 410 Studies in Literary Movements	A		S	B	E	P		J	
ETHN 100 Freshman Seminar-The Minority Experience	A	R	S	B	E	P	H	J	T
ETHN 150 African Culture & Civilization (HIST 150)	A	R	S	B	E	P	H	J	T
ETHN 171 Latin American Culture & Civilization (HIST 171)	A	R	S	B	E	P	H	J	T
• ETHN 189H University Honors Seminar	A	R	S	B	E	P	H	J	T
• ETHN 200 Intro to African American Studies	A	R	S	B	E	P	H	J	T
• ETHN 201 Intro to Native American Studies	A	R	S	B	E	P	H	J	T
• ETHN 211 Intercultural Communication (COMM 211)	A	R	S	B	E	P	H	J	T
• ETHN 212 Intro to Cultural Anthropology (ANTH 212)	A	R	S	B	E		H		
• ETHN 217 Nationality & Race Relations (SOCI 217)	A	R	S	B	E	P	H	J	T
ETHN 218 Chicanos in American Society (SOCI 218)	A	R	S	B	E	P	H	J	T
• ETHN 238 Blacks & the American Political System (POLS 238)	A	R	S	B	E	P	H	J	T
ETHN 241 Native American History (HIST 241)	A	R	S	B	E	P	H	J	T
• ETHN 242 Native American Women (HIST, WMNS 242)	A	R	S	B	E		H	J	T
• ETHN 244 African American Literature (ENGL 244)	A	R	S	B	E	P	H	J	T
• ETHN 244A Intro to African Literature (ENGL 244A)	A	R	S	B	E	P	H	J	T
• ETHN 244B Black Women Authors (ENGL, WMNS 244B)	A	R	S	B	E	P	H	J	T
• ETHN 244D African Caribbean Literature (ENGL 244D)	A	R	S	B	E	P	H	J	T
• ETHN 244E Early African American Literature (ENGL 244E)	A	R	S	B	E	P	H	J	T
• ETHN 245A Intro to Asian American Literature & Culture (ENGL 245A)	A		S	B	E	P	H	J	T
• ETHN 245B Native American Literature (ENGL 245B)	A	R	S	B	E	P	H	J	T
• ETHN 245D Chicana and/or Chicano Literature (ENGL 245D)	A	R	S	B	E	P	H	J	T
ETHN 306 African American History: African Origins to 1877 (HIST 306)	A	R	S	B	E	P	H	J	T
ETHN 309 African American History: After 1877 (HIST 309)	A	R	S	B	E	P	H	J	T
ETHN 310 Psychology of Immigration (PSYC 310)	A	R	S	B	E	P	H	J	T
• ETHN 330 Multicultural Education (TEAC 330)	A	R	S	B	E	P	H		T
• ETHN 344 Ethnicity & Film (ENGL 344)	A		S	B					
• ETHN 347 African Architecture (AHIS 366, ARCH 347)	A	R	S	B	E		H		
ETHN 351 Indigenous Peoples of North America (ANTH 351)	A	R	S	B	E	P	H	J	T
ETHN 352 Indigenous Peoples of the Great Plains (ANTH 352)	A	R	S	B	E	P	H	J	T
ETHN 356 Race & Ethnicity in the American West (HIST 356)	A	R	S	B	E	P	H	J	T
ETHN 357 History & Culture of the Mexican American (HIST 357)	A	R	S	B	E	P	H	J	T
ETHN 362 People & Cultures of Africa (ANTH 362)	A	R	S	B	E	P	H	J	T
ETHN 370 Colonial Mexico (HIST 370)	A	R	S	B	E	P	H	J	T
ETHN 371 Modern Mexico (HIST 371)	A	R	S	B	E	P	H	J	T
• ETHN 448 Family Diversity (SOCI 448)	A	R	S	B	E	P	H	J	T
• ETHN 485 Africa Since 1800 (HIST 485)	A	R	S	B	E	P	H	J	T
ETHN 486 History of South Africa (HIST 486)	A	R	S	B	E	P	H	J	T
• FREN 323 Aspects of Francophone Civilization	A	R	S	B	E	P	H	J	T
• GEOG 375 Geography of Asia	A	R	S	B	E	P	H	J	T
• GEOG 378 Geography of Latin America	A	R	S	B	E	P	H	J	T
HIST 150 African Culture & Civilization (ETHN 150)	A	R	S	B	E	P	H	J	T
HIST 171 Latin American Culture & Civilization (ETHN 171)	A	R	S	B	E	P	H	J	T
HIST 181 Intro to East Asian Civilization (POLS 171)	A	R	S	B	E	P	H	J	T
• HIST 182 Alpha Learning Community Freshman Seminar	A		S	B	E	P	H		
HIST 217 Israel: The Holy Land (JUDS, RELG 217)	A	R	S	B	E	P	H	J	T
HIST 218 History of Islam	A	R	S	B	E	P	H	J	T
HIST 219 Intro to Jewish History (JUDS, RELG 219)	A	R	S	B	E	P	H	J	
HIST 225 Women in History	A	R	S	B	E	P	H	J	T
HIST 241 Native American History (ETHN 241)	A	R	S	B	E	P	H	J	T
• HIST 242 Native American Women (ETHN, WMNS 242)	A	R	S	B	E		H	J	T
HIST 271 The Latin American Colonies	A	R	S	B	E	P	H	J	T
HIST 272 The Latin American Republics	A	R	S	B	E	P	H	J	T
HIST 282 Modern East Asia	A	R	S	B	E	P	H	J	T
HIST 306 African American History: African Origins to 1877 (ETHN 306)	A	R	S	B	E	P	H	J	T
HIST 309 African American History: After 1877 (ETHN 309)	A	R	S	B	E	P	H	J	T
HIST 329 Women in European History (WMNS 329)	A	R	S	B	E	P	H	J	T
HIST 332 Jews in the Middle Ages (JUDS, RELG 332)	A	R	S	B	E	P	H	J	T
HIST 333 Jews in the Modern World (JUDS 333)	A	R	S	B	E	P	H	J	T
HIST 339 The Holocaust	A	R	S	B	E	P	H	J	T
HIST 356 Race & Ethnicity in the American West (ETHN 356)	A	R	S	B	E	P	H	J	T
HIST 357 History & Culture of the Mexican American (ETHN 357)	A	R	S	B	E	P	H	J	T
HIST 370 Colonial Mexico (ETHN 370)	A	R	S	B	E	P	H	J	T
HIST 371 Modern Mexico (ETHN 371)	A	R	S	B	E	P	H	J	T
HIST 372 Revolutions in Twentieth Century Latin America	A	R	S	B	E	P	H	J	T
HIST 375 Women & Work in United State History (ECON, WMNS 375)	A	R	S		E	P	H	J	T
HIST 381 History of Premodern Japan	A	R	S	B	E	P	H	J	T
HIST 382 History of Modern Japan	A	R	S	B	E	P	H	J	T

	HIST 383 History of Premodern China	A	R	S	B	E	P	H	J	T	L
•	HIST 402 Sexuality in 19th & Twentieth Century America (WMNS 402)	A	R	S	B						
•	HIST 441 Women & Gender in the United States (WMNS 441)	A	R	S	B						
•	HIST 485 Africa Since 1800 (ETHN 485)	A	R	S	B	E	P	H	J	T	L
	HIST 486 History of South Africa (ETHN 486)	A	R	S	B	E	P	H	J	T	L
	HUMS 465 International Perspectives of Human Resources & Family Sciences	A	R		B	E		H		T	L
	JUDS 177 The Holocaust in Literature & Film (MODL 177)	A	R	S	B	E	P	H	J	T	L
	JUDS 209 Judaism & Christianity in Conflict & Co-existence (RELG 209)	A	R	S	B	E		H	J	T	L
	JUDS 217 Israel: The Holy Land (HIST, RELG 217)	A	R	S	B	E	P	H	J	T	L
	JUDS 219 Intro to Jewish History (HIST, RELG 219)	A	R	S	B	E	P	H	J		
•	JUDS 245J Jewish-American Fiction (ENGL 245J)	A	R	S	B	E	P	H	J	T	L
	JUDS 332 Jews in the Middle Ages (HIST, RELG 332)	A	R	S	B	E	P	H	J	T	L
	JUDS 333 Jews in the Modern World (HIST 333)	A	R	S	B	E	P	H	J	T	L
	JUDS 334 Jews, Christians & the Bible (RELG 334)	A	R	S	B	E	P	H	J		
•	JUDS 340 Women in the Biblical World (RELG, WMNS 340)	A	R	S	B	E	P	H	J	T	L
•	JUDS 350 Literature of Judaism	A	R	S	B	E	P	H	J	T	L
•	LAMS 331 Latin American Civilization (SPAN 331)	A	R	S	B	E	P	H	J	T	L
	MNGT 361 Personnel/Human Resource Management	A	R		E		H		T	L	
•	MNGT 428 International Management	A	R		E		H		T	L	
	MODL 177 The Holocaust in Literature & Film (JUDS 177)	A	R	S	B	E	P	H	J	T	L
	MODL 232 The Jewish Idea in Modern Literature (ENGL 232)	A	R	S	B	E	P	H	J	T	L
	MRKT 453 International Marketing	A	R		E		H		T	L	
•	MUNM 280 World Music (MUSC 280)	A	R	S	B	E	P	H	J	T	L
•	MUNM 370H Honors: Women Making Music (MUSC 370H)	A	R	S	B	E	P	H	J		
•	MUSC 280 World Music (MUNM 280)	A	R	S	B	E	P	H	J	T	L
•	MUSC 370H Honors: Women Making Music (MUNM 370H)	A	R	S	B	E	P	H	J		
•	NRES 385 Women, Gender & Science (AGRI, WMNS 385)	A	R	S	B	E		H	J		
•	NUTR 253 Cultural Aspects of Food & Nutrition	A	R	S	B	E	P	H		T	L
•	PHIL 218 Philosophy of Feminism (WMNS 218)	A	R	S	B	E	P	H	J	T	L
	POLS 171 Intro to East Asian Civilization (HIST 181)	A	R	S	B	E	P	H	J	T	L
•	POLS 238 Blacks & the American Political System (ETHN 238)	A	R	S	B	E	P	H	J	T	L
•	POLS 272 Non-Western Politics	A	R	S	B	E	P	H	J	T	L
•	POLS 274 Developmental Politics in East Asia	A	R	S	B	E	P	H	J	T	L
	POLS 277 Latin American Politics	A	R	S	B	E	P	H	J	T	L
•	POLS 281 Challenges to the State	A	R	S	B	E	P	H	J		
•	POLS 338 Women & Politics (WMNS 338)	A	R	S	B	E	P	H	J	T	
	PSYC 310 Psychology of Immigration (ETHN 310)	A	R	S	B	E	P	H	J	T	L
•	PSYC 421 Psychology of Gender (WMNS 421)	A	R	S	B	E	P	H	J	T	L
	RELG 181 Judaism, Christianity & Islam	A	R	S	B	E	P	H	J	T	L
•	RELG 182 Alpha Learning Community Freshman Seminar	A	R	S	B	E	P	H			
	RELG 209 Judaism & Christianity in Conflict & Co-existence (JUDS 209)	A	R	S	B	E		H	J	T	L
	RELG 217 Israel: The Holy Land (HIST, JUDS 217)	A	R	S	B	E	P	H	J	T	L
	RELG 219 Intro to Jewish History (HIST, JUDS 219)	A	R	S	B	E	P	H	J		
	RELG 332 Jews in the Middle Ages (HIST, JUDS 332)	A	R	S	B	E	P	H	J	T	L
	RELG 334 Jews, Christians & the Bible (JUDS 334)	A	R	S	B	E	P	H	J		
•	RELG 340 Women in the Biblical World (JUDS, WMNS 340)	A	R	S	B	E	P	H	J	T	L
•	SOCI 182 Alpha Learning Community Freshman Seminar	A	R	S	B	E	P	H			
•	SOCI 183 Alpha Learning Community Freshman Seminar	A	R	S	B	E	P	H			

•	SOCI 189H University Honors Seminar	A	R	S	B	E	P	H	J	T	L
•	SOCI 200 Women in Contemporary Society	A	R	S	B	E	P	H	J	T	L
•	SOCI 217 Nationality & Race Relations (ETHN 217)	A	R	S	B	E	P	H	J	T	L
	SOCI 218 Chicanos in American Society (ETHN 218)	A	R	S	B	E	P	H	J	T	L
•	SOCI 448 Family Diversity (ETHN 448)	A	R	S	B	E	P	H	J	T	L
•	SOCI 460 Education & Society	A	R	S	B	E	P	H	J	T	L
	SPAN 264 Spanish American Literature in Translation I	A	R	S	B	E	P	H	J	T	L
	SPAN 265 Spanish American Literature in Translation II	A	R	S	B	E	P	H	J	T	L
•	SPAN 331 Latin American Civilization (LAMS 331)	A	R	S	B	E	P	H	J	T	L
•	TEAC 330 Multicultural Education (ETHN 330)	A	R	S	B	E	P	H		T	L
•	TXCD 123 Clothing & Human Behavior	R	B	E	P	H					
	TXCD 123H Honors: Clothing & Human Behavior	R	B	E	P	H					
•	WMNS 101 Intro to Women's & Gender Studies	A	R	S	B	E	P	H	J	T	L
•	WMNS 189H University Honors Seminar	A	R	S	B	E	P	H	J	T	L
•	WMNS 201 Intro to Lesbian, Gay, Bisexual Transgender Studies	A	S	B	E	P	H	J	T	L	
•	WMNS 212 Intro to Lesbian & Gay Literature (ENGL 212)	A	R	S	B	E	P	H	J	T	L
•	WMNS 215 Intro to Women's Literature (ENGL 215)	A	R	S	B	E	P	H	J	T	L
•	WMNS 218 Philosophy of Feminism (PHIL 218)	A	R	S	B	E	P	H	J	T	L
•	WMNS 239B Women Filmmakers (ENGL 239B)	A	R	S	B	E	P	H	J		
•	WMNS 242 Native American Women (HIST, ETHN 242)	A	R	S	B	E		H	J	T	L
•	WMNS 244B Black Women Authors (ETHN, ENGL 244B)	A	R	S	B	E	P	H	J	T	L
•	WMNS 315A Survey of Women's Literature (ENGL 315A)	A	R	S	B	E	P	H	J	T	L
•	WMNS 315B Women in Popular Culture (ENGL 315B)	A	R	S	B	E	P	H	J	T	L
	WMNS 329 Women in European History (HIST 329)	A	R	S	B	E	P	H	J	T	L
•	WMNS 338 Women & Politics (POLS 338)	A	R	S	B	E	P	H	J	T	L
•	WMNS 340 Women in the Biblical World (RELG, JUDS 340)	A	R	S	B	E	P	H	J	T	L
	WMNS 375 Women & Work in United States History (ECON, HIST 375)	A	R	S		E	P	H	J	T	L
•	WMNS 385 Women, Gender & Science (AGRI, NRES 385)	A	R	S	B	E		H	J		
•	WMNS 402 Sexuality in 19th & Twentieth Century America (HIST 402)	A	R	S	B						
•	WMNS 408 Cross-Cultural Mentoring I (ANTH 408)	R	S	B							
•	WMNS 409 Cross-Cultural Mentoring II (ANTH 409)	R	S	B							
•	WMNS 421 Psychology of Gender (PSYC 421)	A	R	S	B	E	P	H	J	T	L
•	WMNS 441 Women & Gender in the United States (HIST 441)	A	R	S	B						

## Integrative Studies Program List

The following chart lists all courses that fulfill the Integrative Studies requirement, indicating those courses that also fulfill Essential Studies requirements and in which Areas (A-H).

Course #	Course Name	ES
ACCT 308	Managerial Accounting	
ACCT 309	Accounting Systems	
ACCT 314	Intermediate Accounting	
ACCT 410	Auditing	
ACCT 412	Federal Tax Accounting	
ADVT 207	Communicating to Public Audiences (ALEC 207)	
ADVT 357	Strategic Communications Research & Strategy	
ADVT 417	Issues Management and Crisis Communications in Agriculture (ALEC 417)	

Course #	Course Name	ES	Course #	Course Name	ES
ADVT 460	Media Planning and Strategy		ALEC 417	Issues Management and Crisis Communications in Agriculture (ADVT 417)	
ADVT 489	Advertising & Public Relations Campaigns		ALEC 428	Leadership in Public Organizations (NRES 428)	
AECN 265	Resources & Environmental Economics I (NREE 265)	C	ALEC 466	Leadership & Diversity in Organizations & Communities	H
AECN 346	World Food Economics	C	ALEC 477	Leadership & Motivation	
AECN 376	Rural Community Economics	C	ALEC 480	Dynamics of Agricultural Journalism	
AECN 388	Ethics in Agriculture & Natural Resources (AECN 388)	F	ALEC 488	Leadership, Power & Influence	
AECN 401	Advanced Farm Management & Linear Programming		ANTH 189H	Honors: University Honors Seminar	C
AECN 420	International Food & Agricultural Trade		ANTH 212	Intro to Cultural Anthropology (ETHN 212)	CH
AECN 425	Agricultural Marketing in a Multinational Environment		ANTH 232	Intro to Prehistory	E
AECN 435	Advanced Agricultural Marketing Management		ANTH 242	Intro to Physical Anthropology	D
AECN 445	Agricultural & Natural Resource Policy Analysis (NREE 445)		ANTH 252	Archaeology of World Civilizations (CLAS 252)	C E H
AECN 453	Agricultural & Rural Property Appraisal		ANTH 408	Cross-Cultural Mentoring I (WMNS 408)	CH
AGEN 225	Engineering Properties of Biological Materials (BSEN 225)		ANTH 409	Cross-Cultural Mentoring II (WMNS 409)	CH
AGEN 325	Power Systems Design (BSEN 325)		ANTH 412	Social Structure	
AGEN 344	Biological & Environmental Transport Processes (BSEN 344)	D	ANTH 422	Medical Anthropology	
AGEN 424	Machine Design in Agricultural Engineering		ANTH 430	Nutritional Anthropology (NUTR 430)	
AGEN 480	Design II in Agricultural & Biological Systems Engineering (BSEN 480)		ANTH 432	History & Theory of Archaeology	
AGRI 103	Intro to Agricultural & Natural Resource Systems (NRES 103, LIBR 110A)	D	ANTH 442	Human Variation	
AGRI 282	Intro to Global Agricultural & Natural Resources Issues	C	ANTH 451	Contemporary Issues of Indigenous People in North America (ETHN 451)	
AGRI 385	Women, Gender & Science (NRES, WMNS 385)	E H	ANTH 476	Human Rights, Environment, & Development	
AGRO 153	Soil Resources (HORT, SOIL 153)	D	ANTH 477	Hunters–Gatherers	
AGRO 240	Forage Crop & Range Management (RNGE 240)		ANTH 478	Pro-Seminar in Latin American Studies (EDPS, GEOG, HIST, LAMS, MODL, POLS, SOCI 478)	
AGRO 366	Soil Nutrient Relationships (SOIL 366)		ANTH 484	Quantitative Methods in Anthropology	
AGRO 405	Crop Management Strategies		ANTH 486	Community-Based Research & Evaluation (ETHN 487)	
AGRO 435	Agroecology (HORT, NRES 435)		ARCH 340	Architectural History & Theory I	E G
AGRO 445	Livestock Management on Range & Pasture (ASCI 451, RNGE 445)		ARCH 347	African Architecture (AHIS 366, ETHN 347)	H
AGRO 470	Critical Thinking in Landscape Management (HORT, TLMT 470)		ARCH 442	Contemporary Architecture	E G
AGRO 477	Great Plains Field Pedology (GEOG 467; NRES, SOIL 477)		ARCH 469	Senior Landscape Design (HORT 469)	
AGRO 489	Urbanization of Rural Landscapes (CRPL, HORT 489)		ARCH 481	Women in Design (IDES 481)	
AHIS 189H	University Honors Seminar	G	ARTP 189H	Honors: University Honors Seminar	G
AHIS 311	Greek Art & Archaeology		ASCI 210	Animal Products	D
AHIS 313	Roman Art & Archaeology		ASCI 251	Intro to Companion Animals	
AHIS 318	Late Medieval Art in Europe		ASCI 310	Fresh Meats	D
AHIS 321	Early Renaissance Art		ASCI 370	Animal Welfare	D
AHIS 322	High Renaissance & Mannerist Art		ASCI 410	Processed Meats	
AHIS 366	African Architecture (ARCH, ETHN 347)	H	ASCI 451	Livestock Management on Range & Pasture (AGRO, RNGE 445)	
AHIS 411	Classical Architecture		ASCI 485	Animal Systems Analysis	
AHIS 412	Greek Sculpture		ASCI 486	Animal Biological Systems	
AHIS 418	Gothic Painting & Prints		ATHC 279	Coaching Effectiveness & Psychological Components of Sports Performance	C
AHIS 421	The Italian Renaissance City		ATHT 445	Advanced Studies in Athletic Training	
AHIS 426	Northern Renaissance & Reformation Art		BIOC 435	Advanced Topics in Biochemistry	
AHIS 431	Italian Baroque Art		BIOC 486	Advanced Topics in Biophysical Chemistry (BIOS, CHEM 486)	
AHIS 441	Impressionism & Postimpressionism		BIOS 102	Cell Structure and Function	D
AHIS 446	Art since 1945		BIOS 102H	Honors: Cell Structure and Function	D
AHIS 448	Post-Modernism		BIOS 103	Organismic Biology	D
AHIS 451	19th Century American Art		BIOS 109	General Botany	D
AHIS 452	American Art 1893-1939		BIOS 140	Natural History of Western Nebraska	D
AHIS 472	Photography Since 1960		BIOS 203	Bioethics	C
AHIS 476	History of Prints		BIOS 207	Ecology & Evolution	D
ALEC 102	Interpersonal Skills for Leadership	A	BIOS 232	Ecological Issues in the Great Plains	D
ALEC 189H	University Honors Seminar	C F	BIOS 302	Ecology & Evolution	
ALEC 202	Leadership Development in Small Groups & Teams	C	BIOS 369	Introductory Plant Pathology (PLPT 369)	D
ALEC 207	Communicating to Public Audiences (ADVT 207)		BIOS 374	Economic Botany	
ALEC 246	Modern Industries (TEAC 246)	D	BIOS 381	Invertebrate Zoology	
ALEC 302	Dynamics of Effective Leadership in Organizations	C	BIOS 385	Parasitology	
ALEC 388	Ethics in Agriculture & Natural Resources (AECN 388)	F	BIOS 412	Human Genetics	
ALEC 405	Methods of Instruction for Secondary Agriscience Education		BIOS 412H	Honors: Human Genetics	
ALEC 410	Environmental Leadership (NRES 413)	F			
ALEC 414	Classic Figures in Leadership	F			

Course #	Course Name	ES
BIOS 459	Limnology (NRES, WATS 459)	
BIOS 462	Animal Behavior	
BIOS 468	Field Animal Behavior	
BIOS 472	Evolution	
BIOS 475	Ornithology	
BIOS 486	Advanced Topics in Biophysical Chemistry (BIOC, CHEM 486)	
BIOS 487	Field Parasitology	
BIOS 488	Natural History of Invertebrates	
BRDC 370	Broadcasting News Writing	
BRDC 372	Advanced Reporting for Broadcasting	
BRDC 466	Telecommunication & Information Systems	
BSAD 181H	Honors: Foundations of Business I (RAIK 181H)	
BSAD 182H	Honors: Foundations of Business II (RAIK 182H)	C
BSAD 281H	Honors: Business Systems & Operations I (RAIK 281H)	
BSAD 282H	Honors: Business Systems & Operations II (RAIK 282H)	A
BSAD 381H	Honors: Advanced Topics in Business I (RAIK 381H)	C
BSAD 382H	Honors: Advanced Topics in Business II (RAIK 382H)	
BSAD 401H	Honors: Design Studio III (CSCE, RAIK 401H)	
BSAD 402H	Honors: Design Studio IV (CSCE, RAIK 402H)	
BSEN 225	Engineering Properties of Biological Materials (AGEN 225)	
BSEN 325	Power Systems Design (AGEN 325)	
BSEN 344	Biological & Environmental Transport Processes (AGEN 344)	D
BSEN 480	Design II in Agricultural & Biological Systems Engineering (AGEN 480)	
CHEM 105	Chemistry in Context I	D
CHEM 106	Chemistry in Context II	D
CHEM 109	General Chemistry I	D
CHEM 111	Chemistry For Engineering & Technology	D
CHEM 113	Fundamental Chemistry I	D
CHEM 262	Organic Chemistry	D
CHEM 421	Analytical Chemistry	
CHEM 471	Physical Chemistry	
CHEM 484	Physical Chemical Measurements	
CHEM 486	Advanced Topics in Biophysical Chemistry (BIOC, BIOS 486)	
CHME 430	Chemical Engineering Lab	
CIVE 489	Senior Design Project	
CIVE 489H	Honors: Senior Design Project	
CLAS 180	Classical Mythology	F
CLAS 182	Alpha Learning Community Freshman Seminar	E F H
CLAS 183	Heros, Harlots & Helots	E F H
CLAS 189H	University Honors Seminar	F
CLAS 252	Archaeology of World Civilizations (ANTH 252)	C E H
CLAS 281	The World of Classical Greece (ENGL 240A)	F
CLAS 282	The World of Classical Rome (ENGL 240B)	F
CLAS 283	Epic Tales: The World's Heros & Gods	F
CLAS 315	Medieval World: Byzantium (HIST 315)	
CLAS 320	The Classical World: Archeology & Texts	
CLAS 409	Religion of Late Western Antiquity (HIST, RELG 409)	F
CNST 242	Construction Equipment & Methods II	
CNST 420	Professional Practice & Ethics	
CNST 489	Senior Construction Project	
COMM 109	Fundamentals of Human Communication	A
COMM 109H	Honors: Fundamentals of Human Communication	A
COMM 189H	University Honors Seminar	C
COMM 201	Intro to Research Methods in Communication Studies	
COMM 209H	Honors: Public Speaking	A
COMM 211	Intercultural Communication (ETHN 211)	C H
COMM 212	Debate	A G
COMM 220	Intro to Public Discourse	E F
COMM 280	Communication & Popular Culture	C
COMM 286	Business & Professional Communication	A

Course #	Course Name	ES
COMM 312	Argumentation	
COMM 354	Health Communication	C
COMM 370	Family Communication	C
COMM 371	Communication in Negotiation & Conflict Resolution	C
COMM 380	Gender & Communication	C H
COMM 400	Intro to Rhetorical Theory	
COMM 430	Political Communication (POLS 430)	
COMM 452	Communication & Culture	
COMM 470	Interpersonal Communication Theory	
COMM 486	Communicating Organizational Culture & Power	
CRPL 300	The Community & the Future	
CRPL 489	Urbanization of Rural Landscapes (AGRO, HORT 489)	
CSCE 230	Computer Organization	D
CSCE 230H	Honors: Computer Organization	D
CSCE 310	Data Structures & Algorithms	
CSCE 361	Software Engineering	
CSCE 378	Human-Computer Interaction	
CSCE 401H	Honors: Design Studio III (BSAD, RAIK 401H)	
CSCE 402H	Honors: Design Studio IV (BSAD, RAIK 402H)	
CSCE 423	Design & Analysis of Algorithms	
CSCE 475	Multiagent Systems	
CSCE 476	Intro to Artificial Intelligence	
CSCE 478	Intro to Machine Learning	
CSCE 487	Computer Science Design Project	
CSCE 489	Computer Engineering Senior Design Project	
CYAF 280	Family Science	C
CYAF 333	Families in the Economy	C
CYAF 381	Family Intervention with Fieldwork	C
CYAF 488	Child & Family Policy	C
DANC 159	Intro to History of Dance	E G
DANC 349	History of Dance: Twentieth Century & Beyond	G
DANC 448	Dance Pedagogy	
DANC 469	Seminar in Dance	
ECON 189H	University Honors Seminar	
ECON 388	Comparative Economic Systems	
ECON 409	Applied Public Policy Analysis	
ECON 435	Market Competition	
ECON 457	19th Century United States Economic History (HIST 457)	
ECON 458	Twentieth Century United States Economic History (HIST 458)	
EDPS 189H	Honors: How to Learn & Develop Talent	C
EDPS 250	Fundamentals of Child Development for Education	
EDPS 251	Fundamentals of Adolescent Development for Education	
EDPS 362	Learning in the Classroom	
EDPS 457	Learning & Motivation Principles for Secondary Teaching	
EDPS 478	Pro-seminar in Latin American Studies (ANTH, GEOG, HIST, LAMS, MODL, POLS, SOCI 478)	
ELEC 307	Electrical Engineering Lab I	
ELEC 317	Electrical Engineering Lab II	
ELEC 494	Electrical Engineering Senior Design I	
ELEC 495	Electrical Engineering Senior Design II	
ENGL 101	Writing: Rhetoric & Reading	A
ENGL 101H	Honors: Writing: Rhetoric & Reading	A
ENGL 150	Writing: Rhetoric as Inquiry	A
ENGL 150H	Honors: Writing: Rhetoric as Inquiry	A
ENGL 151	Writing: Rhetoric as Argument	A
ENGL 151H	Honors: Writing: Rhetoric as Argument	A
ENGL 180	Intro to Literature	F
ENGL 189H	University Honors Seminar	F
ENGL 200	Intro to English Studies	F
ENGL 201A	Intro to Drama	F
ENGL 202	Modern British & American Poetry	F

Course #	Course Name	ES	Course #	Course Name	ES
ENGL 205	Twentieth Century Fiction	F	ENGL 373	Film Theory & Criticism	F
ENGL 209	Film: The Documentary	F	ENGL 376	Rhetoric: Argument & Society	
ENGL 210I	Illness & Health in Literature	F	ENGL 402L	Romantic Poetry	
ENGL 210L	Arthur in Legend & Literature	F	ENGL 403	American Short Story	
ENGL 210P	Literature of War & Peace	F	ENGL 405B	18th Century British Novel	
ENGL 210T	Stories & Human Experience	F	ENGL 405E	Modern Fiction	
ENGL 211A	Plains Literature	F	ENGL 405J	Twentieth Century British Fiction	
ENGL 212	Intro to Lesbian & Gay Literature (WMNS 212)	F H	ENGL 405K	Canadian Fiction	
ENGL 213E	Intro to Film History	F	ENGL 405M	American Novel I	
ENGL 215	Intro to Women's Literature (WMNS 215)	F H	ENGL 405N	American Novel II	
ENGL 219	Film Genre	F	ENGL 410	Studies in Literary Movements	F H
ENGL 220	Intro to Linguistic Principles	C	ENGL 411B	Plains Literature	
ENGL 230	English Authors to 1800	F	ENGL 414B	Modern & Contemporary Women Writers (WMNS 414B)	
ENGL 230A	Shakespeare	F	ENGL 430A	Shakespeare I	
ENGL 231	English Authors after 1800	F	ENGL 439	Film Directors	
ENGL 239	Film Directors	F	ENGL 445	Ethnic Literature (ETHN 445)	
ENGL 239B	Women Filmmakers (WMNS 239B)	F H	ENGL 445E	Native American Literature (ETHN 445E)	
ENGL 240A	The World of Classical Greece (CLAS 281)	F	ENGL 445K	African &/or African-American Literature (ETHN 445K)	
ENGL 240B	The World of Classical Rome (CLAS 282)	F	ENGL 457A	Composition & Rhetorical Theory	
ENGL 243B	Literature of India	F H	ENGL 462	Survey of Medieval Literature	
ENGL 244	African American Literature (ETHN 244)	F H	ENGL 462A	Ideas of Ethnicity in Medieval Literature (JUDS 462A)	
ENGL 244A	Intro to African Literatures (ETHN 244A)	F H	ENGL 465	19th Century British Literature	
ENGL 244B	Black Women Authors (ETHN, WMNS 244B)	F H	ENGL 475A	Rhetorical Theory: Rhetoric of Women Writers (WMNS 475A)	
ENGL 244D	African Caribbean Literature (ETHN 244D)	F H	ENGL 478	Electronic Texts: Theory & Practice	
ENGL 244E	Early African American Literature (ETHN 244E)	F H	ENGL 480	Writing Theory & Practice for Consultants	
ENGL 245A	Intro to Asian American Literature & Culture (ETHN 245A)	F H	ENGL 482	Literacy Issues & Community	
ENGL 245B	Native American Literature (ETHN 245B)	F H	ENGL 487	English Capstone Experience	
ENGL 245D	Chicana and/or Chicano Literature (ETHN 245D)	F H	ENGL 489	Medieval Literature & Theology (RELG 489)	
ENGL 245J	Jewish-American Fiction (JUDS 245J)	F H	ENTO 108	Insects, Sciences & Society	D
ENGL 245K	Canadian Literature	F	ENTR 421	Entrepreneurship & Venture Management (MNGT 421)	
ENGL 247	Literature & Arts on the Plains	F	ENVR 189H	University Honors Seminar	
ENGL 250	Intro to Creative Writing		ETHN 189H	University Honors Seminar	C F H
ENGL 252	Intro to Writing of Fiction	G	ETHN 200	Intro to African American Studies	C H
ENGL 253	Intro to Writing of Poetry	G	ETHN 201	Intro to Native American Studies	C H
ENGL 254	Writing & Communities	A	ETHN 211	Intercultural Communication (COMM 211)	C H
ENGL 259A	Writing for Films	G	ETHN 212	Intro to Cultural Anthropology (ANTH 212)	C H
ENGL 270	Literary/Critical Theory	F	ETHN 217	Nationality & Race Relations (SOCI 217)	C H
ENGL 275	Intro to Rhetorical Theory	F	ETHN 238	Blacks & the American Political System (POLS 238)	C H
ENGL 278	Intro to Humanities Computing	F	ETHN 242	Native American Women (HIST, WMNS 242)	E H
ENGL 282	Literature & the Other Arts	F	ETHN 244	African American Literature (ENGL 244)	F H
ENGL 302A	Poetry Since 1945		ETHN 244A	Intro to African Literatures (ENGL 244A)	F H
ENGL 303	Short Story	F	ETHN 244B	Black Women Authors (ENGL, WMNS 244B)	F H
ENGL 305A	The Novel 1700-1900	F	ETHN 244D	African-Caribbean Literature (ENGL 244D)	F H
ENGL 311D	Literature of Socialism	F	ETHN 244E	Early African American Literature (ENGL 244E)	F H
ENGL 311G	Revolution & Romanticism	F	ETHN 245A	Intro to Asian American Literature & Culture (ENGL 245A)	F H
ENGL 315A	Survey of Women's Literature (WMNS 315A)	F H	ETHN 245B	Native American Literature (ENGL 245B)	F H
ENGL 315B	Women in Popular Culture (WMNS 315B)	F H	ETHN 245D	Chicana and/or Chicano Literature (ENGL 245D)	F H
ENGL 322B	Linguistics & Society	C	ETHN 330	Multicultural Education (TEAC 330)	C H
ENGL 330E	Chaucer, Shakespeare, Milton	F	ETHN 344	Ethnicity & Film (ENGL 344)	
ENGL 333A	Willa Cather & Her World		ETHN 347	African Architecture (AHIS 366, ARCH 347)	H
ENGL 333M	American Literary Traditions	F	ETHN 400	Senior Seminar	
ENGL 340	Classical Roots of English Literature	F	ETHN 411	Indians in American Popular Culture (HIST 411)	
ENGL 341	The Bible as Literature	F	ETHN 425	Psychology of Racism (PSYC 425)	
ENGL 344	Ethnicity & Film (ETHN 344)		ETHN 437	African Americans & Racial Politics: 1932 to the Present (HIST 437)	
ENGL 347	Humanities on the Plains	F	ETHN 440	The Black Family	
ENGL 354	Writing: Uses of Literacy		ETHN 445	Ethnic Literature (ENGL 445)	
ENGL 361A	Intro to Early American Literature	F	ETHN 445E	Native American Literature (ENGL 445E)	
ENGL 361B	Intro to Late American Literature	F	ETHN 445K	African &/or African American Literature (ENGL 445K)	
ENGL 362	Intro to Medieval Literature	F	ETHN 446	Black Social Movements	
ENGL 363	Intro to Renaissance Literature	F	ETHN 448	Family Diversity (SOCI 448)	C H
ENGL 364	Intro to Restoration & 18th Century Literature	F			
ENGL 365	Intro to 19th Century British Literature	F			

Course #	Course Name	ES
ETHN 451	Contemporary Issues of Indigenous People in North America (ANTH 451)	
ETHN 456	Black &/or African-American Women's History (HIST, WMNS 456)	
ETHN 459	The Black West (HIST 459)	
ETHN 464	Native American History: Selected Topics (HIST 464)	
ETHN 465	History of Plains Indians (HIST 465)	
ETHN 468	Cultural History of Native America (HIST 468)	
ETHN 485	Africa Since 1800 (HIST 485)	E H
ETHN 487	Community-Based Research & Evaluation (ANTH 486)	
EURO 450	Senior Seminar	
FDST 101	Introductory Food Science	D
FDST 280	Contemporary Issues in Food Science	D
FDST 451	Food Science & Technology Seminar	
FDST 460	Food Product Development Concepts	
FINA 450	International Financial Management	
FINA 461	Advanced Finance	
FINA 463	Security Analysis	
FINA 465	Bank Management	
FREN 301	Representative Authors I	F
FREN 302	Representative Authors II	F
FREN 321	French Civilization I	E
FREN 322	French Civilization II	E
FREN 323	Aspects of Francophone Civilization	H
FREN 406	Translation	
FREN 441	Literary Treasures of the Middle Ages	
FREN 445	17th Century I	
FREN 446	17th Century II	
FREN 449	18th Century I	
FREN 450	18th Century II	
FREN 453	French Literature 19th Century I	
FREN 454	French Literature 19th Century II	
FREN 457	Twentieth Century French Literature I	
FREN 458	Twentieth Century French Literature II	
FREN 459	Literature of French Canada	
FREN 460	Francophone Literature	
FREN 461	Studies in Francophone Literature & Cultures	
GEOG 120	Intro to Economic Geography	C
GEOG 140	Intro to Human Geography	C
GEOG 155	Elements of Physical Geography	D
GEOG 181	Quality of the Environment	C
GEOG 200	Landscape & Environmental Appreciation (HORT, LARC 200)	G
GEOG 217	Mapping Science in the 21st Century	
GEOG 281	Intro to Water Science (NRES, WATS 281)	D
GEOG 283	Space, the Environment & You	C
GEOG 361	Urban Geography	C
GEOG 375	Geography of Asia	C H
GEOG 378	Geography of Latin America	C H
GEOG 400	Senior Seminar in Great Plains Studies (GPSP, HIST 400)	
GEOG 444	Geodemographics & GIS	
GEOG 447	Political Geography	
GEOG 467	Great Plains Field Pedology (AGRO, NRES, SOIL 477)	
GEOG 478	Pro-seminar in Latin American Studies (ANTH, EDPS, HIST, LAMS, MODL, POLS, SOCI 478)	
GEOL 101H	Honors: Physical Geology	D
GEOL 182	Alpha Learning Community Freshman Seminar	D
GEOL 320	Stratigraphy	
GEOL 340	Structural Geology	
GEOL 440	Tectonics	
GEOL 460	Summer Field Course	
GERM 203	Composition & Conversation I	
GERM 204	Composition & Conversation II	

Course #	Course Name	ES
GERM 301	Representative Authors I	F
GERM 302	Representative Authors II	F
GERM 321	German Civilization I	E
GERM 322	German Civilization II	E
GERM 392	Topics in German Studies	
GERM 442	Survey of Medieval German Literature in Translation (MODL 442)	
GERM 444	Middle High German Literature	
GERM 445	16th & 17th Century German Literature	
GERM 447	18th Century Literature	
GERM 448	Romanticism	
GERM 449	Survey of 19th Century German Literature, 1820-1848	
GERM 450	Survey of 19th Century German Literature, 1848-1900	
GERM 451	From Naturalism to Expressionism	
GERM 452	From the Weimar Republic Into Exile	
GERM 453	History of German Poetry	
GERM 455	Postwar German Literature: The Literature of West Germany, Austria & Switzerland	
GERM 459	Works of Goethe & Schiller	
GERM 460	Goethe's Faust	
GPSP 400	Senior Seminar in Great Plains Studies (GEOG, HIST 400)	
GREK 491	Topics in Greek Prose	
GREK 492	Topics in Greek Poetry	
GRPH 321	Intermediate Graphic Design	
GRPH 421	Advanced Graphic Design	
HIST 100H	Honors: Western Civilization to 1715	E
HIST 101H	Honors: Western Civilization Since 1715	E
HIST 105	American Ways (POLS 105)	E
HIST 120	World History to 1500 CE	E
HIST 121	World History Since 1500 CE	E
HIST 182	Alpha Learning Community Freshman Seminar	E H
HIST 189H	University Honors Seminar	E
HIST 201H	Honors: American History to 1877	E
HIST 202H	Honors: American History After 1877	E
HIST 242	Native American Women (ETHN, WMNS 242)	E H
HIST 288	Intro to Historical Methods	
HIST 315	Medieval World: Byzantium (CLAS 315)	
HIST 321	The Age of the Renaissance & Reformation	
HIST 365	U. S. South	
HIST 400	Senior Seminar in Great Plains Studies (GPSP, GEOG 400)	
HIST 402	Sexuality in 19th & Twentieth Century America (WMNS 402)	
HIST 409	Religion of Late Western Antiquity (CLAS, RELG 409)	F
HIST 411	Indians in American Popular Culture (ETHN 411)	
HIST 412	City States in Classical Greece	
HIST 414	Medieval Culture	
HIST 417	The Roman Revolution, 133 BCE-68 CE	
HIST 418	Augustan Rome	
HIST 420	The Italian Renaissance	
HIST 421	The German Reformation	
HIST 422	The Scientific Revolution	
HIST 423	The European Enlightenment	
HIST 424	European Social & Cultural History Since 1815	
HIST 430	Early European History Through Biography	
HIST 431	Medieval England	
HIST 432	England: Reformation to Revolution 1530-1660	
HIST 433	England: Restoration to 1789	
HIST 434	England in the Victorian Age	
HIST 435	Twentieth Century England	
HIST 436	Saints, Witches & Madwomen (WMNS 436)	
HIST 437	African Americans & Racial Politics: 1932 to the Present (ETHN 437)	
HIST 441	Women & Gender in the United States (WMNS 441)	

Course #	Course Name	ES	Course #	Course Name	ES
HIST 442	Antebellum America 1800-1850		LAMS 311	Representative Spanish-American Authors I (SPAN 311)	F
HIST 445	The American Civil War & Reconstruction		LAMS 312	Representative Spanish-American Authors II (SPAN 312)	F
HIST 446	America in the "Gilded Age"		LAMS 331	Latin American Civilization (SPAN 331)	E F H
HIST 447	Family History of the U.S.		LAMS 462	Spanish-American Short Story (SPAN 462)	
HIST 448	History of Women and Gender in the American West (WMNS 448)		LAMS 478	Pro-seminar in Latin American Studies (ANTH, EDPS, GEOG, HIST, MODL, POLS, SOCI 478)	
HIST 456	Black &/or African-American Women's History (ETHN, WMNS 456)		LARC 200	Landscape & Environmental Appreciation (HORT, GEOG 200)	G
HIST 457	19th Century United States Economic History (ECON 457)		LATN 491	Topics in Latin Prose	
HIST 458	Twentieth Century United States Economic History (ECON 458)		LATN 492	Topics in Latin Poetry	
HIST 459	The Black West (ETHN 459)		LIBR 110A	Intro to Agricultural & Natural Resource Systems (AGRI, NRES 103)	D
HIST 461	The Russian Revolution		MATH 106	Analytic Geometry & Calculus I	B
HIST 462	Recent Russia		MATH 106B	Calculus I for Biology & Medicine	B
HIST 464	Native American History: Selected Topics (ETHN 464)		MATH 107	Analytic Geometry & Calculus II	B
HIST 465	History of Plains Indians (ETHN 465)		MATH 107H	Honors: Calculus II	B
HIST 467	China in the Twentieth Century		MATH 108H	Honors: Accelerated Calculus I	B
HIST 468	Cultural History of Native America (ETHN 468)		MATH 109H	Honors: Accelerated Calculus II	B
HIST 470	Digital History		MATH 189H	University Honors Seminar	B
HIST 471	Latin America & the Outside World		MATH 203	Contemporary Mathematics	B
HIST 475	History of Brazil		MATH 203J	Contemporary Mathematics "J"	B
HIST 478	Pro-seminar in Latin American Studies (ANTH, EDPS, GEOG, LAMS, MODL, POLS, SOCI 478)		MATH 208	Analytic Geometry & Calculus III	B
HIST 480	The Social & Economic History of China Since the Late Ming Era		MATH 208H	Honors: Analytic Geometry & Calculus III	B
HIST 485	Africa Since 1800 (ETHN 485)	E H	MATH 221	Differential Equations	B
HIST 487	The Nature of History		MATH 221H	Honors: Differential Equations	B
HORT 153	Soil Resources (AGRO, SOIL 153)	D	MATH 238	Mathematical Methods for Biology & Medicine	B
HORT 200	Landscape & Environmental Appreciation (GEOG, LARC 200)	G	MATH 310	Intro to Modern Algebra	
HORT 261	Floral Design I	G	MATH 310H	Honors: Intro to Modern Algebra	
HORT 435	Agroecology (AGRO, NRES 435)		MATH 314	Applied Linear Algebra (Matrix Theory)	
HORT 469	Senior Landscape Design (ARCH 469)		MATH 314H	Honors: Applied Linear Algebra (Matrix Theory)	
HORT 470	Critical Thinking in Landscape Management (AGRO, TLMT 470)		MATH 325	Elementary Analysis	
HORT 488	Business Management for Horticultural Enterprises		MATH 394	Topics in Contemporary Mathematics	B
HORT 489	Urbanization of Rural Landscapes (AGRO, CRPL 489)		MATH 405	Discrete & Finite Mathematics	
IDES 340	Historic Interiors I		MATH 417	Intro to Modern Algebra I	
IDES 445	History of Furniture	E	MATH 425	Mathematical Analysis	
IDES 481	Women in Design (ARCH 481)		MATH 428	Principles of Operations Research	
IDES 484	Material Culture: The Social Life of Things		MATH 430	Ordinary Differential Equations I	
IMSE 305	Intro to Engineering Management		MATH 432	Linear Optimization	
IMSE 315	Introduction to Ergonomics		MECH 343	Elements of Machine Design	
IMSE 415	Cognitive Ergonomics		MECH 380	Mechanical Engineering Measurements	
IMSE 416	Physical Ergonomics		MECH 447	Mechanical Engineering Design II	
IMSE 450	Senior Engineering Project		MECH 487	Thermal Fluids Lab	
JGEN 184	Basic Photography		METR 200	Weather & Climate	D
JGEN 200	Technical Communication I	A	METR 205	Intro to Atmospheric Science	D
JGEN 300	Technical Communication II	A	METR 370	Basic & Applied Climatology (NRES 370)	D
JOUR 101	Principles of Mass Media	C	METR 442	Advanced Synoptic Meteorology-Climatology	
JOUR 189H	University Honors Seminar	C	METR 454	Statistical Analysis of Atmospheric Data	
JOUR 485	Mass Media History	C	METR 478	Regional Climatology (NRES 478)	
JOUR 486	Mass Media Law	C	MIST 350	Intro to Management Information Systems (MNGT 350)	
JOUR 487	Mass Media & Society	C	MNGT 189H	University Honors Seminar	C F
JUDS 205	Intro to the Hebrew Bible/Old Testament (RELG 205)	E F	MNGT 245	Elementary Quantitative Methods	B
JUDS 245J	Jewish-American Fiction (ENGL 245J)	F H	MNGT 320	Principles of Management	
JUDS 306	Second Temple Judaism (RELG 306)		MNGT 350	Intro to Management Information Systems (MIST 350)	
JUDS 340	Women in the Biblical World (RELG, WMNS 340)	F H	MNGT 360H	Honors: Managing Behavior in Organizations	C
JUDS 345	Modern European Jewish Philosophy (PHIL 345)	F	MNGT 365	Managing Diversity in Organizations	
JUDS 350	Literature of Judaism	F H	MNGT 421	Entrepreneurship & Venture Management (ENTR 421)	
JUDS 462A	Ideas of Ethnicity in Medieval Literature (ENGL 462A)		MNGT 428	International Management	H
JUDS 476	Ethnic Conflict & Identity (POLS 476)		MNGT 461	Advanced Personnel/Human Resource Management	
JUDS 477	Israel & the Middle East (POLS 477)		MNGT 462	Labor Relations	
			MNGT 464	Human Resource Planning	
			MNGT 465	Organization Theory & Behavior	C
			MNGT 467	Leadership in Organizations	
			MNGT 475	Business Policies & Strategies	

Course #	Course Name	ES
MNGT 475H	Honors: Business Policies & Strategies	
MODL 189H	University Honors Seminar	F
MODL 442	Survey of Medieval German Literature in Translation (GERM 442)	
MODL 478	Pro-seminar in Latin American Studies (ANTH, EDPS, GEOG, HIST, LAMS, POLS, SOCI 478)	
MRKT 346	Marketing Channels Management	C
MRKT 350	Marketing Information Systems	
MRKT 441	Marketing & Electronic Commerce	
MRKT 442	Marketing Management	
MRKT 458	Sales Management	C
MSYM 354	Soil Conservation & Watershed Management (SOIL, WATS 354)	
MSYM 416	Sensors & Control Systems for Agri-Industries	
MUED 450	American Cultural Perspectives through Popular Music & Guitar (TEAC, MUNM 450)	CG
MUED 470	Music & Special Education	
MUNM 276G	The Music Experience	G
MUNM 277	Art Music in the Western World (MUSC 277)	G
MUNM 280	World Music (MUSC 280)	GH
MUNM 287	The History of Rock Music	EG
MUNM 301	Music and Sports: Performance and Perception	CG
MUNM 370H	Honors: Women Making Music (MUSC 370H)	GH
MUNM 450	American Cultural Perspectives through Popular Music & Guitar (TEAC, MUED 450)	CG
MUSC 101	Introduction to Music	G
MUSC 189H	University Honors Seminar	G
MUSC 277	Art Music in the Western World (MUNM 277)	G
MUSC 280	World Music (MUNM 280)	GH
MUSC 365	Music History & Literature I	G
MUSC 366	Music History & Literature II	G
MUSC 370H	Honors: Women Making Music (MUNM 370H)	GH
MUSC 445	Analysis for Performance	
MUSC 449	Medieval Music	
MUSC 458	History of Opera	
MUSC 478	Music of the Twentieth Century I	
MUSC 482	Music of the Twentieth Century II	
MUSC 485	Music of the Classic Period	
MUSC 486	Music of the Renaissance	
MUSC 487	Music of the Baroque Era	
MUSC 488	Music of the Romantic Period	
MUSC 489	American Music	
NEWS 302	Beat Reporting	
NEWS 303	Advanced Editing	
NREE 265	Resources & Environmental Economics I (AECN 265)	C
NREE 445	Agricultural & Natural Resource Policy Analysis (AECN 445)	
NRES 103	Intro to Agricultural & Natural Resource Systems (AGRI 103, LIBR 110A)	D
NRES 211	Intro to Conservation Biology	D
NRES 281	Intro to Water Science (GEOG, WATS 281)	D
NRES 323	Natural Resources Policy	C
NRES 370	Basic & Applied Climatology (METR 370)	D
NRES 385	Women, Gender & Science (AGRI, WMNS 385)	E H
NRES 413	Environmental Leadership (ALEC 410)	F
NRES 423	Integrated Resources Management	
NRES 428	Leadership in Public Organizations (ALEC 428)	
NRES 433	Wildlife Management Techniques	
NRES 435	Agroecology (AGRO, HORT 435)	
NRES 459	Limnology (BIOS, WATS 459)	
NRES 463	Fisheries Science	
NRES 477	Great Plains Field Pedology (GEOG 467; AGRO, SOIL 477)	
NRES 478	Regional Climatology (METR 478)	
NUTR 100	Nutrition, Exercise & Health	C

Course #	Course Name	ES
NUTR 251	Nutrition Through the Life Cycle	
NUTR 253	Cultural Aspects of Food & Nutrition	CH
NUTR 344	Food & Nutrition for Healthy Eating	
NUTR 351	School Health Issues	
NUTR 356	Nutrition Education in the Community	
NUTR 401	Health Behavior	
NUTR 402	Facts & Fiction in Fitness & Food	
NUTR 430	Nutritional Anthropology (ANTH 430)	
NUTR 452	Medical Nutrition Therapy II	D
NUTR 455	Advanced Nutrition	D
NUTR 473	Organization & Administration of Foodservice	
NUTR 486	Exercise Testing & Exercise Programming in Adult Fitness & Cardiac Rehabilitation	
PHIL 101	Intro to Philosophy	F
PHIL 106	Philosophy & Current Issues	F
PHIL 110	Intro to Logic & Critical Thinking	F
PHIL 116	Philosophy & Religious Beliefs	F
PHIL 189H	University Honors Seminar	F
PHIL 211	Intro to Modern Logic	B
PHIL 213	Medical Ethics	F
PHIL 216	Intro to Psychology & Philosophy	C
PHIL 218	Philosophy of Feminism (WMNS 218)	FH
PHIL 220	Elements of Ethics	F
PHIL 221H	Honors: Political Philosophy	F
PHIL 223	Intro to the Philosophy of History	EF
PHIL 230	Philosophy of Law	F
PHIL 231	History of Philosophy (Ancient)	EF
PHIL 232	History of Philosophy (Modern)	EF
PHIL 301	Theory of Knowledge	F
PHIL 302	Intro to Metaphysics	F
PHIL 314	Problems in the Philosophy of Mind	F
PHIL 320	Ethical Theory	F
PHIL 323	Topics in Applied Ethics	F
PHIL 325	Advanced Social Political Philosophy	F
PHIL 327	Aesthetics	F
PHIL 332	Spinoza	F
PHIL 336	Ethics: Ancient & Medieval	EF
PHIL 337	Knowledge: Ancient & Medieval	EF
PHIL 338	Metaphysics: Ancient & Medieval	EF
PHIL 341	Contemporary Continental Philosophy	F
PHIL 342	American Philosophy	F
PHIL 345	Modern European Jewish Philosophy (JUDS 345)	F
PHIL 400	Undergraduate Seminar in Philosophy	
PHYS 211H	Honors: General Physics I	D
PHYS 212H	Honors: General Physics II	D
PHYS 262	Physical Sciences by Injury	D
PHYS 343	Physics of Lasers & Modern Optics	
PHYS 361	Concepts of Modern Physics	D
PHYS 401	Computational Physics	
PHYS 441	Experimental Physics I	
PHYS 442	Experimental Physics II	
PLPT 110	Molds & Man	
PLPT 189H	University Honors Seminar	D
PLPT 369	Introductory Plant Pathology (BIOS 369)	D
POLS 105	American Ways (HIST 105)	E
POLS 189H	University Honors Seminar	C
POLS 221	Politics in State & Local Government	C
POLS 232	Public Issues in America	C
POLS 234	Government Regulation	C
POLS 236	Public Policy Analysis: Methods & Models	C
POLS 238	Blacks & the American Political System (ETHN 238)	CH
POLS 272	Non-Western Politics	CH

Course #	Course Name	ES	Course #	Course Name	ES
POLS 274	Developmental Politics in East Asia	C H	RELG 310	Great Ideas in Religious Thought: From God to Nothingness	F
POLS 281	Challenges to the State	C H	RELG 318	Islam in the Modern World	F
POLS 286	Political Analysis		RELG 340	Women in the Biblical World (JUDS, WMNS 340)	F H
POLS 325	Legislative Process	C	RELG 409	Religion of Late Western Antiquity (CLAS, HIST 409)	F
POLS 338	Women & Politics (WMNS 338)	H	RELG 418	Fundamentalism, Religion, and Politics	
POLS 363	United States Foreign Policy		RELG 489	Medieval Literature & Theology (ENGL 489)	
POLS 371	Politics of the European Union	C	RNGE 240	Forage Crop & Range Management (AGRO 240)	
POLS 374	Japanese Politics		RNGE 445	Livestock Management on Range & Pasture (AGRO 445, ASCI 451)	
POLS 376	Chinese Politics		RUSS 441	Advanced Literary Analysis	
POLS 383	Justice & the Good Life		RUSS 442	Russian Poetry	
POLS 384	Liberalism and Its Critics		RUSS 482	Russian Literature in Translation I	F
POLS 386	Truth & Progress		RUSS 483	Russian Literature in Translation II	F
POLS 400	Democracy & Democratic Citizenship		SLPA 230	The Brain & Human Communication	D
POLS 410	The Administrative Process		SLPA 421	Professional Issues for the Communication Disorders Specialist	
POLS 425	Congress & Public Policy		SLPA 464	Phonological Disorders	
POLS 426	Topics in American Public Policy		SOCI 101	Intro to Sociology	C
POLS 430	Political Communication (COMM 430)		SOCI 182	Alpha Learning Community Freshman Seminar	C H
POLS 441	Constitutional Law		SOCI 183	Alpha Learning Community Freshman Seminar	C H
POLS 442	Civil Liberties: Freedom of Expression & Conviction		SOCI 189H	University Honors Seminar	C H
POLS 443	Civil Liberties: Issues of Fairness & Equality		SOCI 200	Women in Contemporary Society	C H
POLS 459	International Political Economy		SOCI 210	Drugs & Society	C
POLS 462	Security in the Post Cold War Era		SOCI 217	Nationality & Race Relations (ETHN 217)	C H
POLS 472	State Terror		SOCI 310A	Doing Sociology: Community-Based Research I	
POLS 474	Comparative Institutions		SOCI 310B	Doing Sociology: Community-Based Research II	
POLS 476	Ethnic Conflict & Identity (JUDS 476)		SOCI 320	Sociology of Sport	C
POLS 477	Israel & the Middle East (JUDS 477)		SOCI 355	Theory & Intensive Writing	
POLS 478	Pro-seminar in Latin American Studies (ANTH, EDPS, GEOG, HIST, LAMS, MODL, SOCI 478)		SOCI 444	Social Demography	C
POLS 481	Political Behavior		SOCI 448	Family Diversity (ETHN 448)	C H
PSYC 263	Intro to Cognitive Processes	C	SOCI 453	Sociology of Health & Health Professions	
PSYC 268	Learning and Motivation	C	SOCI 460	Education & Society	C H
PSYC 288	The Psychology of Social Behavior	C	SOCI 478	Pro-seminar in Latin American Studies (ANTH, EDPS, GEOG, HIST, LAMS, MODL, POLS 478)	
PSYC 350	Research Methods & Data Analysis		SOCI 495	Senior Seminar	
PSYC 421	Psychology of Gender (WMNS 421)	H	SOCI 496	Special Topics in Crime, Deviance & Social Control	C
PSYC 425	Psychology of Racism (ETHN 425)		SOIL 101	Soil & Society	
PSYC 428	Health Psychology		SOIL 153	Soil Resources (AGRO, HORT 153)	D
PSYC 440	Perspectives in Psychology		SOIL 354	Soil Conservation & Watershed Management (MSYM, WATS 354)	
PSYC 450	Advanced Research Methods & Analysis		SOIL 366	Soil Nutrient Relationships (AGRO 366)	
PSYC 451	Psychological Measurement & Prediction		SOIL 477	Great Plains Field Pedology (AGRO, NRES 477; GEOG 467)	
PSYC 456	Developmental Biopsychology		SPAN 305	Literary Analysis in Spanish	F
PSYC 460	Human Memory		SPAN 311	Representative Spanish-American Authors I (LAMS 311)	F
PSYC 461	Learning Processes		SPAN 312	Representative Spanish-American Authors II (LAMS 312)	F
PSYC 462	Motivation & Emotion		SPAN 314	Representative Authors of Spain I	F
PSYC 463	Perception		SPAN 315	Representative Authors of Spain II	F
PSYC 483	Psychology of Social Behavior		SPAN 321	Spanish Civilization	E
PSYC 486	Clinical Psychology		SPAN 331	Latin American Civilization (LAMS 331)	E F H
RAIK 181H	Honors: Foundations of Business I (BSAD 181H)		SPAN 421	Medieval Literature	
RAIK 182H	Honors: Foundations of Business II (BSAD 182H)	C	SPAN 441	Spanish Golden Age Poetry	
RAIK 281H	Honors: Business Systems & Operations I (BSAD 281H)		SPAN 442	Spanish Golden Age Prose	
RAIK 282H	Honors: Business Systems & Operations II (BSAD 282H)	A	SPAN 445	Spanish Golden Age Drama	
RAIK 381H	Honors: Advanced Topics in Business I (BSAD 381H)	C	SPAN 453	19th Century Spanish Literature	
RAIK 382H	Honors: Advanced Topics in Business II (BSAD 382H)		SPAN 456	Twentieth Century Spanish Poetry	
RAIK 401H	Honors: Design Studio III (BSAD, CSCE 401H)		SPAN 458	Twentieth Century Spanish Drama	
RAIK 402H	Honors: Design Studio IV (BSAD, CSCE 402H)		SPAN 462	Spanish-American Short Story (LAMS 462)	
RELG 150	Explaining Religion	F	SPAN 497	Seminar in Spanish	
RELG 182	Alpha Learning Community Freshman Seminar	E F H	SPED 302	Assessment Techniques for Diverse Learners	
RELG 189H	University Honors Seminar	F	SPED 303	Behavior Management	C
RELG 205	Intro to the Hebrew Bible/Old Testament (JUDS 205)	E F	SPED 304	Instructional Methods for Students with Diverse Needs	
RELG 206	Ways of Western Religion	E F	SPED 400	Characteristics of Exceptional Persons	
RELG 208	Intro to Islam	E F			
RELG 225	Science & Religion	F			
RELG 306	Second Temple Judaism (JUDS 306)				

Course #	Course Name	ES
SPED 401A	Accommodating Exceptional Learners in the Elementary School Classroom	
SPED 401B	Accommodating Exceptional Learners in the Secondary School Classroom	
SPED 407	Teaching Students with Disabilities in the Secondary Schools	
SPED 434	Intro to Special Vocational Needs	
STAT 218	Intro to Statistics	B
TEAC 246	Modern Industries (ALEC 246)	D
TEAC 307	Teaching Social Studies in the Elementary School	
TEAC 311	Teaching Reading in Elementary School	
TEAC 313	Teaching Language Arts in Elementary School	
TEAC 315	Teaching Science in the Elementary School	
TEAC 330	Multicultural Education (ETHN 330)	C H
TEAC 331	School & Society	
TEAC 351	The Learner Centered Classroom	
TEAC 416	Inclusive Early Childhood Methods	
TEAC 416A	Literacy Methods for the Primary Student: K to 3rd	
TEAC 416B	Social Studies & Science Methods for the Primary Student: K to 3rd	
TEAC 416D	Mathematics Methods for the Primary Student: K to 3rd	
TEAC 424	Foundations of Career & Technical Education	
TEAC 430	Intro to Philosophy of Education	
TEAC 434	Ethics & Education	
TEAC 437	Democracy & Education	
TEAC 450	American Cultural Perspectives through Popular Music & Guitar (MUED, MNUM 450)	C G
TEAC 451N	Learning & Teaching Principles & Practices: Secondary Language Arts	
TEAC 451P	Learning & Teaching Principles & Practices: Secondary Mathematics	
TEAC 451R	Learning & Teaching Principles & Practices: Secondary Modern Languages	
TEAC 451V	Learning & Teaching Principles & Practices: Secondary Science	
TEAC 451W	Learning & Teaching Principles & Practices: Secondary Social Science	
TEAC 452N	Curriculum Principles & Practices: Secondary Language Arts	
TEAC 452R	Curriculum Principles & Practices: Secondary Modern Languages	
TEAC 452V	Curriculum Principles & Practices: Secondary Science	
TEAC 452W	Curriculum Principles & Practices: Secondary Social Science	
THEA 112G	Intro to Theatre	G
THEA 112H	Honors: Intro to Theatre	G
THEA 234	Scripts in Performance	G
THEA 335	History of Theatre I	G
THEA 336	History of Theatre II	G
THEA 427	American Theatre I	
THEA 428	American Theatre II	
THEA 440	Continental Drama	G
THEA 472	Theatre Perspectives	G
THEA 480	Technological Innovations in Film Production	G
TLMT 470	Critical Thinking in Landscape Management (AGRO, HORT 470)	
TXCD 123	Clothing & Human Behavior	C H
TXCD 314	Visual Merchandising	
TXCD 325	Woven & Non-Woven Textile Design	G
TXCD 407	History of Costume	E
TXCD 408	History of Textiles	E
TXCD 410	Socio-psychological Aspects of Clothing (WMNS 410A)	C
TXCD 413	Merchandising III: Merchandise Development & Sourcing	
UHON 395H	University Honors Seminar	
VBMS 403	Integrated Principles & Prevention of Livestock Diseases	

Course #	Course Name	ES
VBMS 410	General Pharmacology & Toxicology	
WATS 281	Intro to Water Science (GEOG, NRES 281)	D
WATS 354	Soil Conservation & Watershed Management (MSYM, SOIL 354)	
WATS 459	Limnology (BIOS, NRES 459)	
WATS 498B	Senior Project II	
WMNS 101	Intro to Women's & Gender Studies	F H
WMNS 189H	University Honors Seminar	C F H
WMNS 201	Intro to Lesbian, Gay, Bisexual, Transgender Studies	C H
WMNS 210	Activism & Feminist Communities	
WMNS 212	Intro to Lesbian & Gay Literature (ENGL 212)	F H
WMNS 215	Intro to Women's Literature (ENGL 215)	F H
WMNS 218	Philosophy of Feminism (PHIL 218)	F H
WMNS 239B	Women Filmmakers (ENGL 239B)	F H
WMNS 242	Native American Women (HIST, ETHN 242)	E H
WMNS 244B	Black Women Authors (ENGL, ETHN 244B)	F H
WMNS 315A	Survey of Women's Literature (ENGL 315A)	F H
WMNS 315B	Women in Popular Culture (ENGL 315B)	F H
WMNS 338	Women & Politics (POLS 338)	H
WMNS 340	Women in the Biblical World (RELG, JUDS 340)	F H
WMNS 385	Women, Gender & Science (AGRI, NRES 385)	E H
WMNS 402	Sexuality in 19th & Twentieth Century America (HIST 402)	
WMNS 408	Cross-Cultural Mentoring I (ANTH 408)	C H
WMNS 409	Cross-Cultural Mentoring II (ANTH 409)	C H
WMNS 410A	Socio-psychological Aspects of Clothing (TXCD 410)	C
WMNS 414B	Modern & Contemporary Women Writers (ENGL 414B)	
WMNS 421	Psychology of Gender (PSYC 421)	H
WMNS 436	Saints, Witches & Madwomen (HIST 436)	
WMNS 441	Women & Gender in the United States (HIST 441)	
WMNS 448	History of Women and Gender in the American West (HIST 448)	
WMNS 456	Black &/or African-American Women's History (ETHN, HIST 456)	
WMNS 475A	Rhetorical Theory: Rhetoric of Women Writers (ENGL 475A)	



## Agronomy

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**Schacht, Walter H.** –1994; Professor, Agronomy; BS 1975 Dana; MS 1981 Nebraska (Lincoln); PhD 1987 Utah State

**Specht, James E.** –1974; Professor, Agronomy; BS 1967 Nebraska (Lincoln); MS 1971 Illinois; PhD 1974 Nebraska (Lincoln)

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**Walters, Daniel T.** –1984; Professor, Agronomy; BS 1973, MS 1975 Illinois; PhD 1984 Minnesota,

## Animal Science

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**Burson, Dennis E.** –1984; Professor, Animal Science; BS 1977 Nebraska (Lincoln); MS 1979, PhD 1985 Kansas State

**Calkins, Chris R.** –1981; Professor, Animal Science; BS 1976 Texas A&M; MS 1978 Tennessee; PhD 1981 Texas A&M

**Ciobanu, Daniel C.** –2008; Assistant Professor, Animal Science; BS 1992 Agricultural Sciences (Romania); PhD 1999 Agriculture and Forestry Sciences (Romania)

**Cupp, Andrea S.** –2000; Associate Professor, Animal Science; BS 1988 Virginia Polytechnic Institute; MS 1991, PhD 1994 Nebraska (Lincoln)

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**Johnson, Rodger K.** –1978; Professor, Animal Science; BS 1965 North Dakota State; MS 1971, PhD 1973 Oklahoma State

**Jones, Steven J.** –1984; Professor, Animal Science; BS 1978 Utah; MS 1980 Arizona; PhD 1984 Purdue

**Karr-Lilenthal, Lisa** –2006; Assistant Professor, Animal Science; BS 1998 Illinois State; MS 2001, PhD 2004 Illinois

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**Kononoff, Paul J.** –2004; Assistant Professor, Animal Science; BSA 1995, MS 1998 Saskatchewan; PhD 2002 Pennsylvania State

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**Miller, Phillip S.** –1990; Professor, Animal Science; BS 1984, MS 1988, PhD 1990 California (Davis)

**Miner, Jess L.** –1996; Associate Professor, Animal Science; BS 1984 Nebraska (Lincoln); MS 1986 Montana State; PhD 1989 Missouri

**Nielsen, Merlyn K.** –1974; Professor, Animal Science; BS 1970 Nebraska (Lincoln); MS 1972, PhD 1974 Iowa State

**Rasby, Rick J.** –1986; Professor, Animal Science; BS 1980 Nebraska (Lincoln); MS 1983, PhD 1986 Oklahoma State

**Reese, Duane E.** –1984; Associate Professor, Animal Science; BS 1977, MS 1979 Ohio State; PhD 1983 Nebraska (Lincoln)

**Reiling, Bryan A.** –2000; Associate Professor, Animal Science; BS 1987, MS 1991 Iowa State; PhD 1996 Illinois

**Scheideler, Sheila E.** –1992; Professor, Animal Science; BS 1981, MS 1982, Nebraska (Lincoln); PhD 1986 Iowa State

**Spangler, Matt L.** –2008; Assistant Professor, Animal Science; BS 2001 Kansas State; MS 2003 Iowa State; PhD 2006 Georgia.

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**White, Brett R.** –2000; Associate Professor, Animal Science; BS 1989 Nebraska (Lincoln); MS 1992, PhD 1997 Illinois

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## Entomology

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**Danielson, Stephen D.** –1988; Associate Professor, Entomology; BS 1974 Nebraska (Lincoln); MS 1976 Oregon State; PhD 1987 Nebraska (Lincoln)

**Ellis, Marion D.** –1995; Professor, Entomology; BS 1972, MS 1974 Tennessee; PhD 1994 Nebraska (Lincoln)

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**Hoback, W. Wyatt** –1999; Associate Professor, Entomology; BA 1990 Randolph-Macon; MS 1995 Southwestern Missouri State; PhD 1999 Nebraska (Lincoln)

**Hunt, Thomas E.** –1999; Associate Professor, Entomology; BA 1990, MS 1993, PhD 1999 Nebraska (Lincoln)

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**Siegfried, Blair D.** –1990; Professor, Entomology; BS 1981 Lockhaven; MS 1984 Florida; PhD 1988 Penn State

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**Weissling, Thomas J.** –2006; Associate Professor of Practice, Entomology; BS 1984, MS 1986 Colorado State; PhD 1990 Nebraska (Lincoln)

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## Food Science and Technology

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**Hutkins, Robert W.** –1987; Khem Shahani Professor, Food Science and Technology; BS 1979, MS 1980 Missouri; PhD 1984 Minnesota

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**Peterson, Daniel A.** –2008; Assistant Professor, Food Science and Technology; BS 1993 Nebraska (Lincoln); PhD 2001 Washington (St. Louis)

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**Smith, Durward A.** –1989; Associate Professor, Food Science and Technology; BS 1972 Idaho; MS 1973, PhD 1976 Louisiana State

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**Thippareddi, Harshavardhan** –2002; Associate Professor, Food Science and Technology; BS 1987 Andhra Pradesh Agricultural University; MS 1992, PhD 1998 Kansas State

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## Horticulture

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## Natural Resources, School of

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**Harvey, F. Edwin** –1996; Professor, School of Natural Resources; BS 1986 Olivet Nazarene; MS 1990 Purdue; PhD 1996 Waterloo (Ontario)

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**Jess, J. Michael** –1999; Geoscientist, School of Natural Resources; BS 1968, MS 1969 Nebraska (Lincoln)

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**Pegg, Mark A.** –2005; Associate Professor, School of Natural Resources; BS 1992 Iowa State; MS 1994 Tennessee Technical; PhD 2000 Iowa State

**Powell, Larkin A.** –2001; Associate Professor, School of Natural Resources; BS 1990 Graceland; MS 1992 Iowa State; PhD 1998 Georgia

**Reinhard, Karl J.** –1989; Professor, School of Natural Resources; BA 1977 Arizona; MS 1985 Northern Arizona; PhD 1988 Texas A&M

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**Shea, Patrick J.** –1981; Professor, School of Natural Resources; UNMC Vice Chair, Environmental, Agricultural and Occupational Health; BS 1975 Fordham; MS 1979 Connecticut; PhD 1981 North Carolina State

**Skopp, Joseph M.** –1980; Associate Professor, School of Natural Resources; BS 1971 California (Davis); MS 1975 Arizona; PhD 1980 Wisconsin

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**Swinehart, James B.** –1970; Professor, School of Natural Resources; BS 1965 California (Riverside); MS 1979 Nebraska (Lincoln)

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**Tyre, R. Andrew (Drew)** –2003; Associate Professor, School of Natural Resources; BS 1991 Alberta (Canada); MS 1994 Simon Fraser (Canada); PhD 1999 Adelaide (Australia)

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**Walter-Shea, Elizabeth A.** –1989; Professor, School of Natural Resources; BS 1978 Central Arkansas; MS 1981 Texas A&M; PhD 1987 Nebraska (Lincoln)

**Wedin, David A.** –1998; Professor, School of Natural Resources; BA 1981 St. Olaf; PhD 1990 Minnesota (Minneapolis)

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**Wilhite, Donald A.** –1977; Professor and Director, School of Natural Resources; BS 1967 Central Missouri State; MS 1969 Arizona State; PhD 1975 Nebraska (Lincoln)

**Wishart, David J.** –1974; Professor, School of Natural Resources; BA 1967 Sheffield; MA 1968; PhD 1971 Nebraska (Lincoln)

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## Plant Pathology

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**Morris, T. Jack** –1990; Professor, Plant Pathology (Biological Sciences); BS 1968, MS 1970 McGill; PhD 1973 Nebraska (Lincoln)

**Partridge, James** –1978; Professor, Plant Pathology (Biological Sciences); BS 1966, PhD 1973 California (Riverside)

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**Wilson, Richard A.** –2009; Assistant Professor, Plant Pathology (Biological Sciences); BS 1993 York; PhD 1998 Imperial College (London)

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## Statistics

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**Hanford, Kathy** –2004; Assistant Professor of Practice, Statistics; BS 1979 Montana State (Bozeman); MS 1984 Illinois (Urbana Champaign); PhD 2001 Nebraska (Lincoln)

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**McCutcheon, Allan L.** –1996; Research Scientist, Research Center; Professor, Statistics; BS 1972 Iowa State; MA 1977, PhD 1982 Chicago

**Parkhurst, Anne M.** –1972; Professor, Statistics; BA 1962 Virginia; MS 1965 Yale; PhD 1992 Nebraska (Lincoln)

**Roy, Ananya** –2007; Assistant Professor, Statistics; BS 2000 St. Xavier's (India); MS 2002 Indian Statistical Institute (India); PhD 2007 Florida

**Soulakova, Julia** –2006; Assistant Professor, Statistics; BS 1998 Moscow State; MA 2001 Wayne State; PhD 2006 Pittsburgh

**Stroup, Walter W.** –1979; Professor and Head, Statistics; BA 1973 Antioch; MS 1975, PhD 1979 Kentucky

**Wang, Dong** –2006; Assistant Professor, Statistics; BS 1997 Fudan; PhD (Genetics) 2003, PhD (Statistics) 2006 Iowa State

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## Veterinary and Biomedical Sciences

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**Carlson, Michael P.** –2003; Assistant Professor of Practice, Veterinary and Biomedical Sciences; BS 1974 Nebraska (Lincoln); MS 1976 Purdue; PhD 1996 Nebraska (UNMC-Omaha)

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**Keen, James** –2007; Associate Professor, Veterinary and Biomedical Sciences; BS 1980 Eastern Kentucky; BS 1986, DVM 1988, PhD 1994 Illinois

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**McVey, D. Scott** –2006; Professor, Veterinary and Biomedical Sciences; DVM 1980 Tennessee; PhD 1986 Texas A&M

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**Smith, David R.**—1997; Professor, Veterinary and Biomedical Sciences; BS 1980, DVM 1983, PhD 1996 Ohio State

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## College of Architecture

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**Mutunayagam, N. Brito**—1981; Professor, Community and Regional Planning and Architecture; BS 1963 Kerala (India); DTCP 1967 School of Planning and Architecture (New Delhi, India); MEngg 1974 AIT (Bangkok, Thailand); DEDP VPI and SU 1981

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## College of Arts and Sciences

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**Bleed, Peter A.**—1972; Professor, Anthropology and Geography; BA 1965, MA 1968 Minnesota; PhD 1973 Wisconsin

**Demers, Paul A.**—2004; Assistant Professor, Anthropology and Geography; BS 1986 Trent; MS 1988 Rensselaer Polytechnic; MA 1994, PhD 2001 Michigan State

**Draper, Patricia**—1998; Professor, Anthropology and Geography; BA 1964 Vassar; MA 1965, PhD 1972 Harvard

**Hames, Raymond**—1980; Professor and Chair, Anthropology and Geography; BA 1971, PhD 1978 California (Santa Barbara)

**McCollough, Martha**—1996; Associate Professor, Anthropology and Geography and Native American Studies; BS 1982, MA 1988 Alaska; PhD 1996 Oklahoma

**Osborne, Daniel L.**—2007; Assistant Professor, Anthropology; BA 1998 Florida; MA 2000 Western Michigan; PhD 2007 Indiana

**Sanchez, Carleen D.**—2004; Assistant Professor, Anthropology and Geography and Ethnic Studies; BA 1989 California State (Fullerton); MA 1996, PhD 2003 California (Santa Barbara)

**Wandsnider, LuAnn**—1991; Associate Professor, Anthropology and Geography; BS 1979 Wisconsin; MS 1981 New Mexico; PhD 1989 New Mexico

**Willis, Mary S.**—2000; Associate Professor, Anthropology and Geography; BA 1983 San Diego State; MS 1990, PhD 1995 Washington

### Biochemistry

**Bailey, Cheryl P.**—2006; Assistant Professor, Biochemistry; BA 1990, PhD 1999 Iowa

**Barycki, Joseph J.**—2002; Associate Professor, Biochemistry; BS 1991 Rochester; PhD 1996 Delaware

**Basset, Gilles J.C.**—2006; Assistant Professor, Agronomy and Horticulture and Biochemistry; BA 1994, PhD 2000 Bordeaux

**Becker, Donald F.**—2003; Associate Professor, Biochemistry; BA 1989 Bethel College (St. Paul); PhD 1994 Minnesota

**Black, Paul N.**—2008; Professor and Chair, Biochemistry; BS 1978 Colorado State; PhD 1983 Vermont

**DiRusso, Concetta C.**—2008; Professor, Nutrition and Health Science and Biochemistry; BA 1975 Hampshire; PhD 1982 Vermont

**Fomenko, Dmitri**—2008; Assistant Professor, Biochemistry; MS 1995 Academy of Fine Chemical Technology (Moscow, Russia); PhD 1999 Russian Academy of Sciences (Moscow, Russia)

**Gladyshev, Vadim N.**—1998; Charles Bessey Professor, Biochemistry; MS 1988, PhD 1992 Moscow State

**Lee, Jaekwon**—2003; Assistant Professor, Biochemistry; BS 1988 Chungnam National (Korea); MS 1992 Seoul National (Korea); PhD 1998 Rutgers

**Lou, Marjorie F.**—1994; Willa Cather Professor, Biochemistry and Veterinary Science; BS 1960 National (Taiwan); MS 1962 Virginia Tech; PhD 1966 Boston

**Markwell, John P.**—1982; Professor, Biochemistry; BA 1970 North Park (Chicago); PhD 1976 Michigan State

**Miner, Jess L.**—1996; Associate Professor, Biochemistry and Animal Science; BS 1984 Nebraska (Lincoln); MS 1986 Montana State; PhD 1989 Missouri

**Sarath, Gautam**—1988; Adjunct Associate Professor, Biochemistry; BS 1974, MS 1976 Dehli; PhD 1984 California

**Simpson, Melanie A.**—2002; Associate Professor, Biochemistry; BS 1992, PhD 1997 Minnesota

**Somerville, Greg**—2004; Assistant Professor, Biochemistry and Veterinary and Biomedical Sciences; BS 1988, MS 1993, PhD 1999 Texas (Dallas)

**Soundarajan, Madhavan**—2001; Senior Lecturer, Biochemistry; BS 1967, MS 1969, MPhil 1977 Madras; PhD 1981 Brigham Young

**Spreitzer, Robert J.**—1984; Charles Bessey Professor, Biochemistry; BS 1974 Cleveland State; PhD 1980 Case Western Reserve

**Stone, Julie**—2001; Associate Professor, Biochemistry and Plant Science Initiative; BS 1986, MS 1992 Wisconsin (Madison); PhD 1996 Missouri (Columbia)

**Weeks, Donald P.**—1989; Professor, Biochemistry and Biological Sciences; BS 1963 Purdue; PhD 1967 Illinois

**Wilson, Mark A.**—2005; Assistant Professor, Biochemistry; BS 1995 Rochester, MS 1998, PhD 2001 Yale

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## Biological Sciences

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**Blum, Paul** –1990; Professor, Biological Sciences; BA 1976 California (Berkeley); PhD 1984 California (Davis)

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**Janovy, John Jr.** –1966; Paula and D. B. Varner University Professor, Biological Sciences; BS 1959, MS 1962, PhD 1965 Oklahoma

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**Morris, T. Jack** –1990; College of Arts and Sciences University Professor, Biological Sciences; BS 1968, MS 1970 McGill; PhD 1973 Nebraska (Lincoln)

**Nickerson, Kenneth** –1975; Professor, Biological Sciences; BS 1963 Rutgers; PhD 1969 Cincinnati

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**Tenhuberg, Brigitte** –2006; Assistant Professor, Biological Sciences; Diplom Ingenieur 1988 Hannover; PhD 1992 Göttingen

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## Chemistry

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**DiMagno, Stephen G.** –1993; Professor, Chemistry; BS 1985 Swarthmore; PhD 1991 California (Berkeley)

**Du, Liangcheng** –2001; Associate Professor, Chemistry; BS 1988 Yunnan; MS 1989 Chinese Academy of Sciences (Shanghai); PhD 1997 Royal Veterinary and Agricultural University (Copenhagen)

**Dussault, Patrick H.** –1988; Professor, Chemistry; BS 1982 California (Irvine); PhD 1986 California Institute of Technology (Pasadena)

**Eckhardt, Craig J.** –1967; Professor, Chemistry; BA 1962 Colorado; MS 1965, PhD 1967 Yale

**George, T. Adrian** –1968; Professor and Vice Chair, Chemistry; BS 1963 Manchester Institute; PhD 1966 Sussex

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**Hage, David S.** –1989; Charles Bessey Professor, Chemistry; BS 1983 Wisconsin-La Crosse; PhD 1987 Iowa State

**Harbison, Gerard** –1992; Professor, Chemistry; BA 1977 Trinity (Dublin, Ireland); PhD 1984 Harvard,

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**Langell, Marjorie A.** –1981; Charles Bessey Professor, Chemistry; BS 1974 Connecticut; MA 1976, PhD 1979 Princeton

**Lai, Rebecca Y.** –2007; Assistant Professor, Chemistry; BS 1999 California State (Los Angeles); PhD 2003 Texas (Austin)

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**Parkhurst, L. J.** –1969; Hewett University Professor, Chemistry and Biological Chemistry; BA 1959, MS 1960, PhD 1965 Yale

**Powers, Robert** –2003; Assistant Professor, Chemistry; BA 1984 Rutgers; PhD 1989 Purdue

**Rajca, Andrzej T.** –1992; Professor, Chemistry; MS 1981 Technical (Wroclaw, Poland); PhD 1985 Kentucky

**Redepenning, Jody** –1990; Associate Professor, Chemistry; BA 1980 Concordia (Minnesota); PhD 1985 Colorado State

**Takacs, James M.** –1988; Charles Bessey Professor and Chair, Chemistry; BA 1976 Rutgers; PhD 1981 California Institute of Technology (Pasadena)

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## Classics and Religious Studies

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**Crawford, Dan D.** –1997; Senior Lecturer, Philosophy, Classics and Religious Studies; BA 1963 Haverford; MA 1966 Princeton; PhD 1972 Pittsburgh

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**Gorman, Robert** –1995; Assistant Professor, Classics and Religious Studies; BA 1984 Nebraska (Lincoln); MA 1988, PhD 1995 Pennsylvania

**Lahey, Stephen** –2002; Assistant Professor, Classics and Religious Studies; BA 1986 West Chester; MA 1990 Kansas; PhD 1996 Connecticut

**Rinkevich, Thomas E.** –1967; Associate Professor, Classics and Religious Studies; AB 1964 Xavier (Cincinnati); MA 1966, PhD 1973 Ohio State

**Turner, John D.** –1976; Professor, Classics and Religious Studies; Cotner Professor of Religious Studies; AB 1960 Dartmouth; BD 1965, THM 1966 Union Theological Seminary (Virginia); PhD 1970 Duke

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**Winter, Thomas N.** –1970; Associate Professor, Classics and Religious Studies; BA 1964 Michigan State; MA 1965, PhD 1968 Northwestern

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## Communication Studies

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**Japp, Phyllis** –1985; Associate Professor, Communication Studies; BA 1976 Nebraska (Omaha); MA 1979, PhD 1986 Nebraska (Lincoln)

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**Krone, Kathleen** –1991; Professor, Communication Studies; BS 1973 Illinois State; MS 1975 Illinois State; PhD 1985 Texas (Austin)

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**Seiler, William J.** –1972; Professor and Chair, Communication Studies; BEd 1965 Wisconsin-Whitewater; MA 1967 Kansas State; PhD 1971 Purdue

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## Computer Science and Engineering

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**Deogun, Jitender** –1981; Professor, Computer Science and Engineering; MS 1970 Delhi (India); MS 1974, PhD 1979 Illinois (Urbana)

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**Elbaum, Sebastian** –1999; Associate Professor, Computer Science and Engineering; BS 1995 Universidad Católica de Córdoba (Argentina); MS 1997, PhD 1999 Idaho (Moscow)

**Goddard, Steve** –1998; Professor and Chair, Computer Science and Engineering; BA 1985 Minnesota; MS 1995, PhD 1998 North Carolina (Chapel Hill)

**Jiang, Hong** –1991; Professor, Computer Science and Engineering; BS 1982 Huazhong University of Science and Technology (People's Republic of China); MS 1987 Toronto (Canada); PhD 1991 Texas A&M

**Lu, Ying** –2005; Assistant Professor, Computer Science and Engineering; BS 1996 Southwest Jiaotong (China); MS 2001, PhD 2005 Virginia (Charlottesville)

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**Reichenbach, Stephen E.** –1989; Professor, Computer Science and Engineering; BA 1976 Nebraska (Lincoln); MS 1984 Washington (St. Louis); PhD 1989 William & Mary (Virginia)

**Revesz, Peter** –1992; Professor, Computer Science and Engineering; BS 1985 Tulane (New Orleans); MS 1987, PhD 1991 Brown

**Riedesel, Charles** –1995; Assistant Professor of Practice and Chief Undergraduate Adviser, Computer Science and Engineering; BS 1973 Wheaton (Illinois); MS 1992, PhD 1995 Nebraska (Lincoln)

**Rothermel, Gregg** –2004; Professor and Jensen Chair of Software Engineering, Computer Science and Engineering; BA 1983 Reed; MS 1986 State University of New York (Albany); PhD 1996 Clemson

**Samal, Ashok** –1988; Associate Professor, Computer Science and Engineering; BS 1983 Indian Institute of Technology; PhD 1988 Utah

**Scott, Stephen D.** –1998; Associate Professor, Computer Science and Engineering; BS 1992, MS 1994 Nebraska (Lincoln); PhD 1998 Washington (St. Louis)

**Seth, Sharad** –1970; Professor, Computer Science and Engineering; BS 1966 Kanpur (India); PhD 1970 Illinois

**Sincovec, Richard F.** –1999; Henson Professor of Engineering and Professor, Computer Science and Engineering; BS 1964 Colorado (Boulder); MS 1967, PhD 1968 Iowa State

**Soh, Leen-Kiat** –2001; Associate Professor, Computer Science and Engineering; BS 1991, MS 1993, PhD 1998 Kansas

**Srisa-an, Witawas** –2002; Associate Professor, Computer Science and Engineering; BS 1995, MS 1998, PhD 2002 Illinois Institute of Technology

**Surkan, Alvin J.** –1969; Professor Emeritus, Computer Science and Engineering; BS 1954 Alberta; MA 1956 Toronto; PhD 1959 West Ontario

**Swanson, David** –2001; Research Associate Professor, Computer Science and Engineering; BS 1987 Nebraska Wesleyan; PhD 1995 Nebraska (Lincoln)

**Variyam, Vinodchandran** –2001; Associate Professor, Computer Science and Engineering; MS 1993 Indian Institute of Technology; PhD 1999 Institute of Mathematical Sciences (India)

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## English

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**Bauer, Grace** –1994; Professor, English; BA 1974 Temple; MFA 1987 Massachusetts

**Behrendt, Stephen C.** –1980; George Holmes University Professor, English; BA 1969 Wisconsin; MA 1970 Eastern Kentucky; PhD 1974 Wisconsin

**Belasco, Susan** –2000; Professor, English; BA 1972, MA 1974 Baylor; PhD 1987 Texas A&M

**Brooke, Robert E.** –1984; Professor, English; BA 1979 Gonzaga; MA 1982, PhD 1984 Minnesota

**Buhler, Stephen M.** –1989; Professor, English; BA 1976 California State; MA 1983, PhD 1989 California

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**Condon, Frances** –2007; Associate Professor, English; BA 1984 York (Toronto); MA 1993 Clanion; PhD 2000 SUNY (Albany)

**Couture, Barbara A.** –2004; Professor, English and Senior Vice Chancellor for Academic Affairs; BA 1970, MA 1973; DA 1980 Michigan

**DiBernard, Barbara J.** –1978; Professor, English; BA 1970 Wilson; MA 1975, PhD 1976 SUNY (New York)

**Dixon, Wheeler W.** –1984; Professor, English; Ryan Professor of Film Studies; BA 1972, MA 1978, MPhil 1978, PhD 1982 Rutgers

**Dreher, Kwakiutl** –2001; Associate Professor, English and Ethnic Studies; BA 1980 South Carolina; MA 1996 Clark Atlanta; PhD 2001 California (Riverside)

**Foster, Gwendolyn** –1997; Professor, English; Coordinator, Film Studies; BA 1983 Rutgers; MA 1992, PhD 1995 Nebraska (Lincoln)

**Gallagher, Chris** –1998; Professor, English; BA 1991 Merrimack; MA 1993 New Hampshire; PhD 1998 SUNY (Albany)

**Gannon, Thomas** –2003; Assistant Professor, English and Ethnic Studies; BA 1979, MA 1989 South Dakota; PhD 2003 Iowa

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**Gregory, Donald L.** –1967; Associate Professor, English; Director, Division of General Studies; AB 1960 Bucknell; MA 1962, PhD 1967 Ohio State

**Griffin, June** –2008; Assistant Professor of Practice, English; BA 1992 Rutgers; MA 1996, PhD 2004 Virginia

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**Harpending, Michael** –1999; Associate Professor and Coordinator, PIESL Programs; BA 1972 Arkansas; MA 1976 San Francisco; PhD 1996 Texas A&M

**Homestead, Melissa J.** –2005; Associate Professor, English; BA 1985 Smith; MA 1987, PhD 1998 Pennsylvania

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**Kooser, Ted** –2004; Professor, English; BS 1962 Iowa State; MA 1968 Nebraska (Lincoln)

**Kuzma, Greg S.** –1969; Professor, English; AB 1966, MA 1967 Syracuse

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**Minter, Deborah** –1996; Associate Professor, English; BA 1985 Kalamazoo; MA 1989 Georgetown; PhD 1996 Michigan

**Montes, Amelia** –2000; Associate Professor, English and Ethnic Studies; BA 1980 Loyola (Marymount); MA 1989, PhD 1999 Denver

**Nissé, Ruth** –1995; Associate Professor, English; BA 1987 Columbia; PhD 1995 Berkeley

**Oakley, Seanna S.** –2005; Assistant Professor, English; BA 1994 UCLA; MA 1995, PhD 2002 Wisconsin-Madison

**Pratt, Linda R.** –1968; Executive Vice President and Provost, University of Nebraska; Professor, English; AB 1965 Florida Southern; MA 1966, PhD 1971 Emory

**Price, Kenneth** –2000; Hillegass Professor of American Literature, English; BA 1976 Whitman; MA 1977, PhD 1981 Chicago

**Ramsay, Stephen J.** –2006; Assistant Professor, English; BA 1992 Rutgers; MA 2000, PhD 2003 Virginia

**Raz, Hilda** –1994; Glenna Luschei Endowed Professor, English; Editor, Prairie Schooner; BA 1960 Boston

**Reynolds, Guy** –2003; Professor, English; BA 1985, MA 1989, PhD 1992 Cambridge

**Ritchie, Joy S.** –1988; Professor and Chair, English; BS 1967 Columbia; MA 1969 Indiana; PhD 1983 Nebraska (Lincoln)

**Rutledge, Gregory E.** –2005; Assistant Professor, English and Ethnic Studies; BA 1989 Emory; MA 1999 Florida; PhD 2005 Wisconsin-Madison

**Schleck, Julia** –2006; Assistant Professor, English; BA 1999 Drew; MA 2005, PhD 2006 New York

**Shapiro, Gerald D.** –1987; Willa Cather Professor, English; BA 1972, MA 1973 Kansas; MFA 1987 Massachusetts

**Slater, Judith C.** –1987; Professor, English; BA 1973 Oregon; MA 1985 San Francisco State; MFA 1987 Massachusetts

**Stenberg, Sharisse J.** –2007; Associate Professor, English; BA 1996 Drake; PhD 2000 SUNY (Albany)

**Stock, Robert D.** –1967; Professor, English; AB 1963 Kent; MA 1965, PhD 1967 Princeton

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## Geography

(See School of Natural Resources: Geography)

## Geosciences

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**Fielding, Christopher R.** –2002; Professor, Geosciences and Coffman Chair of Sedimentary Geology; BSc 1979 Edinburgh; PhD 1982 Durham

**Frank, Tracy D.** –2002; Assistant Professor, Geosciences and Undergraduate Adviser for Geology; BS 1990 Iowa State; MS 1992, PhD 1996 Michigan

**Fritz, Sherilyn C.** –1999; Professor, Geosciences; BA 1974 Macalester; MS 1979 Kent State; PhD 1985 Minnesota

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**Joeckel, Robert M.** –2000; Associate Professor, Geosciences; BS 1985, MS 1988 Nebraska (Lincoln); PhD 1993 Iowa

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**Lawson, Merlin P.** –1968; Professor, Geosciences; BA 1963 SUNY (Buffalo); MA 1966, PhD 1973 Clark

**Lenters, John D.** –2006; Associate Professor, Geosciences; BS 1991 Hope; MS 1995, PhD 1997 Cornell

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**Pederson, Darryll T.** –1975; Professor, Geosciences; BS 1961 Valley City State; MST 1966, PhD 1971 North Dakota

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**Wang, Jun** –2007; Assistant Professor, Geosciences; BS 1996 Nanjing; MS 2002, PhD 2005 Alabama (Huntsville)

**Watkins, David K.** –1984; Professor and Chair, Geosciences; BS 1976, MS 1979 Virginia Polytechnic; PhD 1984 Florida State

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## History

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**Berger, Patrice** –1970; Professor, History; Director, University Honors Program; AB 1965 Columbia; MA 1967, PhD 1972 Chicago

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**Burnett, Amy N.** –1989; Professor, History; BA 1979, MA 1984, PhD 1989 Wisconsin

**Burnett, Stephen G.** –1995; Associate Professor, Classics and Religious Studies and History; BA 1978, MA 1983, PhD 1990 Wisconsin

**Cahan, David L.** –1982; Charles Bessey Professor, History; AB 1969 California (Berkeley); MA 1977, PhD 1980 Johns Hopkins

**Coble, Parks M.** –1976; James L. Sellers Professor, History; BA 1968 South Carolina; MA 1971, PhD 1975 Illinois

**Coope, Jessica A.** –1990; Associate Professor, History; BA 1980 Stanford; MA 1983, PhD 1988 California (Berkeley)

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**Garza, James A.** –2001; Associate Professor, History and Ethnic Studies; BA 1990, MA 1996 Texas A&M International; PhD 2001 Texas Christian

**Gorman, Vanessa B.** –1994; Associate Professor, History; BA 1985 Brigham Young; MA 1988, PhD 1993 Pennsylvania

**Graybill, Andrew R.** –2005; Associate Professor, History; BA 1994 Yale; MA 2000, PhD 2003 Princeton

**Jacobs, Margaret D.** –2004; Associate Professor, History; Director, Women's and Gender Studies; BA 1986 Stanford; MA 1992, PhD 1996 California (Davis)

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**Jones, Patrick D.** –2004; Assistant Professor, History and Ethnic Studies; BA 1993 Kenyon; MA 1996, PhD 2002 Wisconsin

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**Mahoney, Timothy R.** –1986; Professor, History; BA 1975 Holy Cross; MA 1976, PhD 1982 Chicago

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**Thomas, William G. III** –2005; Professor, History; John and Katherine Angle Chair in the Humanities; BA 1986 Trinity (CT); MA 1991, PhD 1995 Virginia

**Winkle, Kenneth J.** –1987; Thomas C. Sorensen Professor and Chair, History; AB 1976 Miami (Ohio); MA 1977, PhD 1984 Wisconsin

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## Mathematics

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**Brittenham, Mark** –2000; Associate Professor, Mathematics; BS 1983 SUNY (Stony Brook); MA 1985, PhD 1990 Cornell

**Chouinard, Leo** –1976; Associate Professor, Mathematics; BS 1970 MIT; PhD 1975 Princeton

**Cohn, Steve** –1989; Associate Professor, Mathematics; MS 1985, PhD 1990 New York

**Deng, Bo** –1987; Professor, Mathematics; BS 1982 Fudan (Shanghai, China); PhD 1987 Michigan State

**Donsig, Allan** –1997; Associate Professor, Mathematics; BS 1988, MS 1989 Waterloo; PhD 1993 Texas A&M

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**Erbe, Lynn** –1997; Professor, Mathematics; BA 1963 Concordia (MN); MA 1966, PhD 1968 Nebraska (Lincoln)

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**Orr, John** –1991; Professor, Mathematics; BSc 1985 London; PhD 1989 King's College

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## Natural Resources, School of: Geography

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## Philosophy

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## Physics and Astronomy

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**Liou, Sy-Hwang** –1988; Professor, Physics and Astronomy; BS 1974 Soochow (Taiwan); MS 1979 Florida Institute of Technology; MA 1981, PhD 1985 Johns Hopkins

**Schmidt, Edward G.** –1974; Professor, Physics and Astronomy; Associate Dean, College of Arts and Sciences; BS 1965 Chicago; PhD 1970 Australian National

**Sellmyer, David J.** –1972; George Holmes University Professor, Physics and Astronomy; Director, Nebraska Center for Materials and Nanoscience; BS 1960 Illinois; PhD 1965 Michigan State

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**Snow, Gregory R.** –1993; Associate Professor, Physics and Astronomy; AB 1976 Princeton; PhD 1983 Rockefeller

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**Tsymbal, Eugeny Y.** –2002; Professor, Physics and Astronomy; BS 1979, MA 1981 Moscow State; PhD 1988 Russian Academy of Sciences (Moscow)

**Uiterwaal, Cornelius** –2001; Assistant Professor, Physics and Astronomy; MS 1989, PhD 1994 Utrecht

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## Political Science

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**Gruhl, John R.** –1976; Professor, Political Science; BA 1969 De Pauw; MA 1973, PhD 1976 California (Santa Barbara)

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**Miller, Ross** –2007; Associate Professor, Political Science; BA 1987 Concordia; MA 1990 New Mexico; PhD 1994 California (Davis)

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**Smith, Kevin B.** –1994; Professor, Political Science; BA 1986 Texas Tech; MA 1991, PhD 1994 Wisconsin (Milwaukee)

**Theiss-Morse, Elizabeth A.** –1988; Professor, Political Science; BA 1982, PhD 1989 Minnesota

**Tillman, Erik** –2006; Assistant Professor, Political Science; BA 1998 Rhodes; MA 2003, PhD 2005 Emory

**Wagner, Michael** –2007; Assistant Professor, Political Science; BJ Nebraska (Lincoln); PhD 2006 Indiana

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## Psychology

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**Bornstein, Brian** –2001; Professor, Psychology; BA 1985 Duke; PhD 1991 Pennsylvania

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**Carlo, Gustavo** –1994; Professor, Psychology; BA 1986 Florida International; MA 1991, PhD 1994 Arizona State

**Crockett, Lisa J.** –1996; Professor, Psychology; BA 1978 Pennsylvania; PhD 1986 Chicago

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**DiLillo, David** –2000; Associate Professor, Psychology; BA 1989 Rhodes; MS 1993, PhD 1997 Oklahoma State

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**Garbin, Calvin P.** –1985; Professor, Psychology; BS 1979 Slippery Rock State College; PhD 1985 Texas (Arlington)

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**Hansen, David** –1992; Professor, Psychology; BA 1980 Creighton; MA 1983, PhD 1985 Mississippi

**Hoffman, Lesa** –2006; Assistant Professor, Psychology; BA 1999 Nebraska (Lincoln); MA 2000, PhD 2003 Kansas

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**Schutte, Anne** –2004; Assistant Professor, Psychology; BA 1992, MA 1998 Concordia; PhD 2004 Iowa

**Spaulding, William** –1979; Professor, Psychology; BA 1972 Pomona; MA 1975, PhD 1976 Arizona

**Tomkins, Alan J.** –1986; Professor, Psychology; BA 1975 Boston; MA 1980, JD 1984, PhD 1984 Washington

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**Wilcox, Brian** –1994; Professor, Psychology; Director, Center for Children, Families and the Law; BA 1973 California Lutheran; PhD 1979 Texas (Austin)

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## Sociology

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**Deegan, Mary Jo** –1975; Professor, Sociology; BS 1969, MA 1973 Western Michigan; PhD 1975 Chicago

**Falci, Christina D.** –2006; Assistant Professor, Sociology; BA 1995 Virginia; MA 1997 Virginia Polytechnic Institute; PhD 2006 Minnesota

**Goosby, Bridget J.** –2007; Assistant Professor, Sociology; BA 1997 Southwestern; MA 2001, PhD 2003 Pennsylvania State

**Hagewen, Kellie J.** –2005; Assistant Professor, Sociology; BA 1998 Adams State; MA 2000 Kansas State; PhD 2005 Duke

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**McQuillian, Julia** –1998; Associate Professor, Sociology and Director, Bureau of Sociological Research; BA 1989, MA 1991, PhD 1998 Connecticut

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**Olson, Kristen M.** –2007; Assistant Professor, Sociology and Statistics; BA 1999 Northwestern; MA 2003 Maryland; PhD 2003 Michigan (Ann Arbor)

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**Williams Jr., J. Allen** –1970; Professor, Sociology; BA 1958 North Carolina; MA 1961 Cornell; PhD 1963 North Carolina (Chapel Hill)

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## College of Business Administration

### Accountancy

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### Business Administration

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### Economics

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### Finance

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## Management

**Combs, Gwen M.** –2000; Associate Professor, Management; BA 1974 Wellesley; MBA 1976 Washington; PhD 2000 Nebraska (Lincoln)

**Digman, Lester A.** –1977; Harold J. Laipply College Professor, Management; Director, Graduate Programs; BSME 1961, MSIE 1962, PhD 1970 Iowa

**Jones, M. Colleen** –1996; Assistant Professor, Management; BBA 1972 Iowa; MBA 1973 Southern California; DBA 1992 George Washington

**Lee, Sang M.** –1976; University Eminent Professor; FirsTier Distinguished Professor and Chair, Management; BA 1961 Seoul (Korea); MBA 1963 Miami (Ohio); PhD 1969 Georgia

**Li, Weixing** –2006; Assistant Professor of Practice, Management; BE 1986 China (Kumming); MBA 1997 Thailand (Bangkok); PhD 2002 Nebraska (Lincoln/Bangkok)

**Luthans, Fred** –1967; George Holmes University Professor, Management; BA 1961, MBA 1962, PhD 1965 Iowa

**Mitchell, Marie** –2006; Assistant Professor, Management; BA 1993 George Mason; MA 1998 Rollins; PhD 2006 Central Florida

**Nadkarni, Sucheta** –2000; Associate Professor, Management; BS 1987, MBA 1989 Bombay (India); PhD 2000 Kansas

**Nah, Fiona** –1998; Associate Professor, Management; BS 1988, MSc 1992 National (Singapore); PhD 1997 British Columbia

**Olson, David L.** –2001; James and H. K. Stuart Chancellor's Distinguished Professor of MIS, Management; BS 1966 South Dakota School of Mines; MBA 1978 Kearney; PhD 1981 Nebraska (Lincoln)

**Schniederjans, Marc J.** –1981; C. Wheaton Batty Distinguished Professor, Management; BS 1972 Missouri (St. Louis); MBA 1974, PhD 1978 St. Louis

**Sebora, Terrence C.** –1991; Associate Professor, Management; Director, Nebraska Center for Entrepreneurship; BA 1968, MA 1970 St. Johns; MBA 1984 Wisconsin (Oshkosh); PhD 1993 North Carolina (Chapel Hill)

**Siau, Keng** –1996; Professor, Management; BS 1989, MS 1991 National (Singapore); PhD 1996 British Columbia (Canada)

**Swenseth, Scott** –1987; Associate Professor, Management; BS 1980 Moorhead State; MBA 1981 Gonzaga; PhD 1988 Texas A&M

**Uhl-Bien, Mary** –2006; Professor, Management; Howard Hawks Chair in Ethics and Leadership; BBA 1986, MBA 1988, PhD 1991 Cincinnati

## Marketing

**Ball, A. Dwayne** –1986; Associate Professor, Marketing; BA 1973 Rice; MA 1979, PhD 1982 Ohio State

**Carlson, Les** –2008; Professor and Nathan J. Gold Distinguished Professorship in Marketing; BA 1973 Midland Lutheran; MA 1980, PhD 1985 Nebraska (Lincoln)

**Gentry, James W.** –1987; Professor and Maurice J. And Alice Hollman College Professorship in Marketing; BS 1969 Kansas State; MBA 1971, DBA 1973 Indiana

**Grossbart, Sanford L.** –1972; W. W. Marshall Professor, Marketing; BSBA 1966, MBA 1967, PhD 1972 Florida

**Hampton, Ronald** –1984; Chair; Associate Professor, Marketing; BSBA 1972, MBA 1978 Central Missouri State; PhD 1984 Arkansas

**Kennedy, Patricia** –1989; Associate Professor, Marketing; BBA 1979, MBA 1980 Oregon; PhD 1990 Oregon

**Saini, Amit** –2003; Assistant Professor, Marketing; BE 1993 Thapar Institute; PGDPC 1997 MICA; PhD 2003 Washington State

**Simon, Robert G.** –2001; Assistant Professor of Practice, Marketing; BA 1973, MBA 1978 Nebraska (Lincoln)

**Sohi, Ravi** –1991; Professor, Marketing; BE 1980, MBA 1982 Bombay; MS 1986, PhD 1991 Wisconsin

## College of Education and Human Sciences

### Child, Youth and Family Studies

**Abbott, Douglas** –1983; Professor, Child, Youth and Family Studies; BS 1973 Oregon State; MS 1979 Brigham Young; PhD 1983 Georgia

**Bischoff, Richard** –1998; Associate Professor, Child, Youth and Family Studies; BA 1988, MS 1990, PhD 1993 Purdue

**Churchill, Susan** –1998; Associate Professor, Child, Youth and Family Studies; BS 1991, MS 1993, PhD 1997 Georgia

**Dalla, Rochelle** –1996; Associate Professor, Child, Youth and Family Studies; BA 1991 Colorado; MS 1993, PhD 1996 Arizona

**DeFrain, John** –1975; Professor\*, Child, Youth and Family Studies; BS 1970, MS 1971 Nebraska (Lincoln); PhD 1975 Wisconsin

**de Guzman, Maria** –2005; Assistant Professor and Extension Specialist, Child, Youth and Family Studies; BA 1995 Atenco de Manila (Philippines); MA 2001, PhD 2004 Nebraska (Lincoln)

**Edwards, Carolyn** –1997; Cather Professor, Child, Youth and Family Studies; BS 1969, EdD 1974 Harvard

**Hollist, Cody** –2005; Assistant Professor, Child, Youth and Family Studies; BS 1999 Brigham Young; MS 2001 Nebraska (Lincoln); PhD 2004 Brigham Young

**Hong, Soo-Young** –2009; Assistant Professor, Child, Youth and Family Studies; BA 1998 Sung-Shin Women's University (Korea); BS 2000 Yonsei (Korea); MS 2004, PhD 2008 Purdue

**Huddleston-Casas, Cathey** –2001; Assistant Professor, Child, Youth and Family Studies; BS 1992, MS 1995 Illinois, PhD 2002 Minnesota (Twin Cities)

**Johnson, Julie** –1980; Professor and Chair, Child, Youth and Family Studies; BS 1970, MS 1972 North Dakota State; PhD 1984 Nebraska (Lincoln)

**Jones-Branch, Julie** –2000; Lecturer, Child, Youth and Family Studies; BS 1994, MS 2000 Nebraska (Lincoln)

**Kostelnik, Marjorie** –2000; Dean, College of Education and Human Sciences and Professor, Child, Youth and Family Studies; BS 1972 Pittsburgh; MS 1977, PhD 1978 Penn State

**Leeper Miller, Jennifer** –2004; Lecturer, Child, Youth and Family Studies; BS 2003 Nebraska (Lincoln)

**Prochaska-Cue, Kathy** –1976; Associate Professor\* and Extension Specialist, Child, Youth and Family Studies; BS 1969 Kansas State; MS 1972 Purdue; PhD 1988 Nebraska (Lincoln)

**Raikes, Helen** –1990; Professor, Child, Youth and Family Studies; BS 1966 Iowa State; MS 1969 California (Davis); PhD 1981 Iowa State

**Reisbig, Alison** –2007; Assistant Professor, Child, Youth and Family Studies; AS 1997 Pratt Community; BS 1999 Emporia State; MS 2002, PhD 2007 Kansas State

**Rupiper, Michelle** –1994; Assistant Professor of Practice, Child, Youth and Family Studies; BA 1984 Northern Iowa; MA 1990 Nebraska (Omaha); PhD 2001 Nebraska (Lincoln)

**Springer, Paul** –2007; Assistant Professor, Child, Youth and Family Studies; BS 2001 Brigham Young; MS 2003 Auburn; PhD 2007 Texas Tech

**Torquati, Julia** –1994; Associate Professor, Child, Youth and Family Studies; Director, Child Development Lab; BA 1987 Marquette; MS 1993, PhD 1994 Arizona

**Xia, Yan (Ruth)** –2001; Associate Professor, Child, Youth and Family Studies; BA 1982 Hebei (China); MA 1988 South China Normal; MS 1999, PhD 2000 Nebraska (Lincoln)

**Zeece, Pauline** –1984; Professor, Child, Youth and Family Studies; BS 1975, MS 1981, PhD 1986 Iowa State

### Educational Administration

**Benning, Don R.** –1997; Senior Lecturer, Educational Administration; BSED 1958, MSED 1961 Omaha; EdD 1971 Nebraska (Lincoln)

**Bryant, Miles T.** –1985; Professor, Educational Administration; BA 1964, MA 1969 Middlebury; EdD 1985 Stanford

**Cejda, Brent** –2005; Associate Professor, Educational Administration; BMED 1977, MMED 1982 Wichita State; PhD 1990 Bowling Green State (Ohio)

**Slugosh, Larry** –1990; Professor and Chair, Educational Administration; BS 1965, MEd 1970, PhD 1981 Nebraska (Lincoln)

**Grady, Marilyn** –1986; Professor, Educational Administration; BA 1971 St. Mary's (Notre Dame); MS 1972 Eastern Illinois; PhD 1980 Ohio State

**Griesen, James V.** –1985; Professor, Educational Administration; Vice Chancellor for Student Affairs; BS 1963, MBA 1968, PhD 1971 Ohio State

**Hoover, Richard** –2000; Senior Lecturer, Educational Administration; BA 1965 Penn State; MEd 1967 Rutgers; PhD 1970 Florida State

**Isernhagen, Jody** –1998; Associate Professor, Educational Administration; BS 1970 James Madison (Virginia); MA 1979, EdD 1988 Virginia Polytechnic Institute

**Joekel, Ron** –1965; Professor Emeritus, Educational Administration; BA 1956 Wesleyan (Nebraska); MEd 1959, EdD 1966 Nebraska (Lincoln)

**LaCost, Barbara** –1990; Associate Professor, Educational Administration; BS 1964 Illinois State; MEd 1981 Illinois (Champaign); PhD 1988 Louisiana State

**Lammel, John** –2002; Senior Lecturer, Educational Administration; BA 1963 Doane; MEd 1966, EdD 1973 Nebraska (Lincoln)

**McNulty, L. Joseph** –1999; Lecturer, Educational Administration; BS 1965, MEd 1968, PhD 1977 Nebraska (Lincoln)

**Stick, Sheldon L.** –1971; Professor, Educational Administration; BA 1960 Northeastern; MA 1966 Kansas; PhD 1972 Michigan

**Torraco, Richard J.** –1994; Associate Professor, Educational Administration; BS 1978 Massachusetts; MS 1983 Boston; PhD 1994 Minnesota

**Uerling, Donald** –1979; Associate Professor, Educational Administration; BS 1962, MS 1970 Kearney; Eds 1972, JD 1979, PhD 1980 Nebraska (Lincoln)

**Winkle-Wagner, Rachelle** –2007; Assistant Professor, Educational Administration; BA 2000, MA 2002 Nebraska (Lincoln); PhD 2006 Indiana (Bloomington)

## Educational Psychology

**Ansorge, Charles J.** –1972; Professor, Educational Psychology; BS 1962 Valparaiso; MA 1967, PhD 1971 Iowa

**Bovaird, James** –2005; Assistant Professor, Educational Psychology; BA and BS 1997 Baker; MA 2000, PhD 2002 Kansas

**Bruning, Roger H.** –1968; Hodder Professor, Educational Psychology; BA 1963, MA 1965, PhD 1968 Nebraska (Lincoln)

**Buhs, Eric** –2002; Associate Professor, Educational Psychology; BA 1985 Southern Illinois; MEd 1988, PhD 2002 Illinois

**Creswell, John** –1978; Professor, Educational Psychology; BA 1967 Muskingum; MA 1971, PhD 1974 Iowa

**Daly, Edward** –2002; Professor, Educational Psychology; BA 1985 Gannon (Pennsylvania); MS 1990, PhD 1992 Syracuse

**Davidson, Meghan** –2007; Assistant Professor, Educational Psychology; BS 1999 Maryland; MS 2001, PhD 2005 Missouri

**De Ayala, R. J.** –1998; Professor and Chair, Educational Psychology; BA 1979 Connecticut; PhD 1987 Texas

**Doll, Beth** –2000; Professor, Educational Psychology; BA 1974 Michigan State; MS 1976 Eastern Michigan; PhD 1983 Kentucky

**Franco, Juan** –2006; Vice Chancellor for Student Affairs; Professor, Educational Psychology; BS 1970 Sul Ross State; PhD 1975 New Mexico State

**Geisinger, Kurt** –2006; Director, Buros Institute; Professor, Educational Psychology; AB 1972 Davidson; MS 1972 Georgia; PhD 1977 Penn State

**Kauffman, Douglas F.** –2008; Assistant Professor, Educational Psychology; BA 1991 Minnesota; MA 1998, PhD 2001 Nebraska (Lincoln)

**Kiewra, Kenneth A.** –1988; Professor, Educational Psychology; BA 1977 State (Oneonta, New York); PhD 1982 Florida State

**McCurdy, Merilee** –2001; Associate Professor, Educational Psychology; BA 1995, MS 1998, PhD 2002 Mississippi State

**Moshman, David** –1977; Professor, Educational Psychology; BA 1971 Lehigh; MS 1975, PhD 1977 Rutgers

**Newman, Ian M.** –1970; Meierhenry Professor, Educational Psychology; BS 1963, MS 1964 George Williams; PhD 1968 Illinois

**Scheel, Michael** –2000; Associate Professor, Educational Psychology; BS 1973 Nebraska (Lincoln); MEd 1975 Idaho; PhD 1993 Nebraska (Lincoln)

**Sheridan, Susan M.** –1998; Professor, Educational Psychology; BS 1982, MS 1984 Western Illinois; PhD 1989 Wisconsin (Madison)

**Swearer, Susan** –1997; Associate Professor, Educational Psychology; BA 1987 Swarthmore; MS 1989 Penn State; MA 1993, PhD 1997 Texas (Austin)

**Weissinger, Ellen** –1986; Professor, Educational Psychology; Dean, Graduate Studies; BS 1980 Nebraska (Lincoln); MA 1982 Iowa; PhD 1985 Maryland

## Nutrition and Health Sciences

**Albrecht, Julie** –1990; Professor\* and Extension Specialist, Nutrition and Health Sciences; BS 1972 North Dakota State; MS 1985, PhD 1989 Minnesota

**Carr, Timothy** –1996; Professor, Nutrition and Health Sciences; BS 1980 California Polytechnic State; MS 1985, PhD 1989 Arizona

**DiRusso, Concetta** –2008; Professor, Nutrition and Health Sciences and Biochemistry; BA 1975 Hampshire; PhD 1982 Vermont

**Driskell, Judy** –1989; Professor, Nutrition and Health Sciences; BS 1965 Southern Mississippi; MS 1967, PhD 1970 Purdue

**Hamouz, Fayrene** –1990; Associate Professor, Nutrition and Health Sciences; BS 1968, MS 1982, PhD 1990 Nebraska (Lincoln)

**Housh, Terry** –1986; Professor, Nutrition and Health Sciences; BS 1977 Doane; MPE 1979, PhD 1984 Nebraska (Lincoln)

**Jones, Georgia** –2001; Associate Professor\*, Nutrition and Health Sciences; BS 1982 Tennessee (Knoxville); MS 1985 Nebraska (Lincoln); PhD 1996 Alabama A&M

**Koszewski, Wanda** –1996; Extension Associate Professor\*, Specialist, Nutrition and Health Sciences; BS 1981 Utah State; MS 1984 Nebraska (Lincoln); PhD 1988 Kansas State

**Lee, Ji-Young** –2005; Assistant Professor, Nutrition and Health Sciences; BS 1991, MS 1994 Kyung Hee (Korea); MS 1998, PhD 2002 Nebraska (Lincoln)

**Lewis, Nancy** –1990; Professor, Nutrition and Health Sciences; BS 1968 New Mexico State; MS 1973 Iowa State; PhD 1985 Nebraska (Lincoln)

**McMeen, Joyce** –2006; Lecturer, Nutrition and Health Sciences; BS 1973 Nebraska (Med Center); MS 2003 Nebraska (Lincoln)

**Perry, Christina** –2002; Assistant Professor of Practice, Nutrition and Health Sciences; BS 1979 Illinois State; MS 1981 Southern Illinois; PhD 1988 New Mexico

**Rudy, Jeffrey P.** –1998; Assistant Professor of Practice, Nutrition and Health Sciences; BS 1987, MS 1992 Pittsburgh; PhD 1997 Kansas State

**Scheer, John** –1970; Associate Professor, Nutrition and Health Sciences; BS 1968, MEd 1969, PhD 1974 Nebraska (Lincoln)

**Schmidt, Richard** –1971; Associate Professor, Nutrition and Health Sciences; BS 1969, MEd 1971, PhD 1988 Nebraska (Lincoln)

**Schnepf, Marilynn** –1990; Chair and Professor, Nutrition and Health Sciences; BS 1967 Briar Cliff College; MS 1969, MS 1980, PhD 1984 Nebraska (Lincoln)

**Stanek Krogstrand, Kaye** –1973; Associate Professor, Nutrition and Health Sciences; BS 1971 Nebraska (Omaha); MS 1975, PhD 1986 Nebraska (Lincoln)

**Young, Linda** –1995; Assistant Professor of Practice, Nutrition and Health Sciences; BS 1972, MS 1983 Nebraska (Lincoln)

**Zempleni, Janos** –2001; Associate Professor, Nutrition and Health Sciences; BS 1988, MS 1992, PhD 1993 Giessen (Germany)

## Special Education and Communication Disorders

**Berenthal, John E.** –1984; Professor and Chair, Special Education and Communication Disorders; BA 1962 Wayne State; MA 1964 Kansas; PhD 1971 Wisconsin

**Beukelman, David R.** –1985; Barkley Distinguished Professor, Special Education and Communication Disorders; BA 1965 Western Michigan; MS 1968, PhD 1971 Wisconsin

**Boney, Stephen J.** –1986; Assistant Professor of Practice, Special Education and Communication Disorders; BA 1972, MA 1974 Kent State; PhD 1986 Vanderbilt

**Carrell, Thomas** –1994; Associate Professor, Special Education and Communication Disorders; BA 1976 California (Berkeley); PhD 1984 Indiana

**Clark, Brenda** –2008; Lecturer, Special Education and Communication Disorders; BS 1994, MS 1999 Nebraska (Lincoln)

**Cress, Cynthia** –1995; Associate Professor, Special Education and Communication Disorders; BA 1982 Michigan; MS 1984 Manchester (England); MA 1990, PhD 1993 Wisconsin (Madison)

**Davis, Alicia** –1997; Lecturer, Special Education and Communication Disorders; BA 1981 Northern Colorado; MS 1983 Colorado State

**Decker, T. Newell** –1977; Professor, Special Education and Communication Disorders; BA 1966 Washington; MEd 1969 East Washington State; PhD 1975 Washington

**Duppong Hurley, Kristin** –2003; Research Assistant Professor, Special Education and Communication Disorders; BA 1995 Loras (Dubuque); MA 1997, PhD 1999 Southern Illinois (Carbondale)

**Eccarius, Malinda** –2004; Assistant Professor of Practice, Special Education and Communication Disorders; BA 1971 Iowa; MS 1983, PhD 2004 Nebraska (Lincoln)

**Epstein, Michael H.** –1998; Barkley Distinguished Professor, Special Education and Communication Disorders; BA 1969, MEd 1971 American; EdD 1975 Virginia

**Farrand, Diane** –1998; Lecturer, Special Education and Communication Disorders; BA 1973, MS 1978 Nebraska (Kearney)

**Green, Jordan** –2003; Associate Professor, Special Education and Communication Disorders; BA 1988, MA 1991 California State (Chico); PhD 1998 Washington

**Griffith, Annette** –2008; Research Assistant Professor, Special Education and Communication Disorders; BA 2001 British Columbia (Okanagan); MA 2005 Nevada (Reno); PhD 2008 Nebraska (Lincoln)

**Healey, E. Charles** –1977; Professor, Special Education and Communication Disorders; BA 1971, MA 1973 Kentucky; PhD 1977 Purdue

**Hogan, Tiffany P.** –2008; Assistant Professor, Special Education and Communication Disorders; BS 1997, MS 1998 Central Missouri; PhD 2006 Kansas

**Hux, Karen** –1990; Associate Professor, Special Education and Communication Disorders; BA 1981, MA 1983 Michigan State; PhD 1989 Northwestern (Illinois)

**Kemp, Sue** –2003; Assistant Professor of Practice, Special Education and Communication Disorders; BA 1987 Northern Colorado; MA 1991 Colorado (Colorado Springs); PhD 2003 Nebraska (Lincoln)

**Kim, Ockjean** –2008; Assistant Professor, Special Education and Communication Disorders; BPL 1985 Chung-Ang; BS 1995 Wisconsin (Madison); MA 1998 Georgia; PhD 2004 Minnesota

**Maag, John** –1989; Professor, Special Education and Communication Disorders; BA 1981, MA 1983, PhD 1988 Arizona State

**Marvin, Christine** –1988; Associate Professor, Special Education and Communication Disorders; BS 1972, MA 1974 Eastern Michigan; PhD 1985 Oregon

**Meers, Gary** –1974; Professor, Special Education and Communication Disorders; Head, Special Vocational Needs; BS 1968 NW Missouri; MS 1970, EdD 1972 Missouri (Columbia)

**Menefee, Kevin L.** –1991; Senior Lecturer, Special Education and Communication Disorders; BA 1980, MA 1982, PhD 1988 Nebraska (Lincoln)

**Morehouse, Toni** –1987; Lecturer, Special Education and Communication Disorders; BS 1973, MA 1974 Nebraska (Lincoln)

**Murphy, Malinda** –2008; Lecturer, Special Education and Communication Disorders; BS 1993 Nebraska Wesleyan; MEd 1996, PhD 2007 Nebraska (Lincoln)

**Nelson, Ron** –2000; Professor, Special Education and Communication Disorders; BS 1979 Wisconsin (Riverfalls); BS 1983 Wisconsin (Madison); MS 1987 Eastern Montana; PhD 1990 Utah State

**Peterson, Reece L.** –1978; Professor, Special Education and Communication Disorders; BA 1970 Chicago; MAT 1971 Brown; PhD 1980 Minnesota

**Prentice, Carrie** –2005; Lecturer, Special Education and Communication Disorders; BSE 1997 Nebraska (Kearney); MS 1999 Nebraska (Lincoln)

**Ray, Stacie** –2004; Lecturer, Special Education and Communication Disorders; BS 1991 Nebraska (Kearney); MS 2001 Nebraska (Lincoln)

**Reid, Robert** –1991; Professor, Special Education and Communication Disorders; BEd 1972, MEd 1975 Missouri (Columbia); PhD 1991 Maryland (College Park)

**Rupp, Dyann** –2004; Lecturer, Special Education and Communication Disorders; BS 1995, MS 1997 Nebraska (Lincoln)

**Sanger, Dixie D.** –1978; Professor, Special Education and Communication Disorders; BA 1967 Nebraska (Lincoln); MA 1970 Long Beach State; PhD 1981 Nebraska (Lincoln)

**Scheffler, Marilyn Olds** –1984; Research Assistant Professor, Special Education and Communication Disorders; Clinic Coordinator; BA 1969 Nebraska (Lincoln); MS 1975, EdS 1976 Kearney State; EdD 1983 Nebraska (Lincoln)

**Siegel, Ellin** –1993; Associate Professor, Special Education and Communication Disorders; BA 1974, MS 1978 California State (Fullerton); PhD 1986 Kansas

**Splattstoesser, Deanne** –1999; Lecturer, Special Education and Communication Disorders; BS 1981, MS 1982 Nebraska (Kearney); EdS 2005 Nebraska (Lincoln)

**Trout, Alexandra** –2005; Research Assistant Professor, Special Education and Communication Disorders; BA 1997, MA 1999, PhD 2003 Nebraska (Lincoln)

**Wacker, Kelly** –2007; Assistant Professor of Practice, Special Education and Communication Disorders; BS 2000 Nebraska (Kearney); MS 2002 Nebraska (Lincoln); AuD 2007 Pennsylvania School of Optometry-School of Audiology

**Weissling, Kristy** –2003; Lecturer, Special Education and Communication Disorders; BSED 1988, MS 1990 Nebraska (Lincoln); SLPD 2006 Nova Southeastern (Florida)

**Willman, Amy** –2001; Lecturer, Special Education and Communication Disorders; BA 1992 Gallaudet; MS 1994 Western Maryland

## Teaching, Learning and Teacher Education

**Bonnstetter, Ronald J.** –1984; Professor, Teaching, Learning and Teacher Education; BS 1973 Mankato State; MS 1976, PhD 1984 Iowa

**Brooks, David M.** –1973; Professor, Teaching, Learning and Teacher Education; BA 1962 New York; MA 1962, PhD 1965 Columbia

**Chan, Elaine** –2006; Assistant Professor, Teaching, Learning and Teacher Education; BA 1991, BEd 1992, MEd 1996 Queens; PhD 2004 Toronto

**Detlefsen, Jean** –2005; Lecturer, Teaching, Learning and Teacher Education; BFAEd 1968, MA 1979 Nebraska (Lincoln)

**Ding, Meixia** –2007; Assistant Professor, Teaching, Learning and Teacher Education; BS 2000, MA 2003 China; PhD 2007 Texas

**Fisher, Patience** –1991; Senior Lecturer, Teaching, Learning and Teacher Education; BA 1961 Colby (Waterville, Maine); MAT 1971, PhD 1991 Nebraska (Lincoln)

**Fowler, David** –1987; Professor, Teaching, Learning and Teacher Education; AB 1962 Harvard; MA 1988, PhD 1991 Nebraska (Lincoln)

**Garcia, Ricardo** –1996; Professor, Teaching, Learning and Teacher Education; BA 1963 New Mexico Highlands; MA 1971, EdD 1973 Denver

**Hamann, Ted** –2005; Assistant Professor, Teaching, Learning and Teacher Education; BA 1991 Brown; MA 1995 Kansas; PhD 1999 Pennsylvania

**Harnisch, Delwyn** –2000; Professor, Teaching, Learning and Teacher Education; BS 1971 Concordia; MEd 1977, PhD 1981 Illinois (Urbana-Champaign)

**Heaton, Ruth** –1995; Associate Professor, Teaching, Learning and Teacher Education; BA 1979 Minnesota; MEd 1987 Vermont; PhD 1994 Michigan State

**Hille, Tina** –2004; Lecturer, Teaching, Learning and Teacher Education; BEd 1974, MEd 1981 Nebraska (Lincoln)

**Hostetler, Karl D.** –1987; Professor, Teaching, Learning and Teacher Education; BA 1976 Dartmouth; MAT 1977 Northwestern (Illinois); EdD 1987 Columbia

**Latta, William** –2002; Lecturer and Assistant Chair, Teaching, Learning and Teacher Education; BS 1977 Lethbridge (Canada); BSED 1982, MED 1988 Calgary (Canada)

**Lopez, William** –1994; Assistant Professor of Practice, Teaching, Learning and Teacher Education; BA 1971, MA 1989 Colorado State; EdD 1999 Nebraska (Lincoln)

**McGowan, Thomas** –2002; Professor and Chair, Teaching, Learning and Teacher Education; BA 1970 Boston; MA 1974, PhD 1983 Nebraska (Lincoln)

**McIntyre Latta, Margaret** –2000; Associate Professor and Clifton Institute Professor, Teaching, Learning and Teacher Education; BEd 1978 Lethbridge (Alberta); MA 1992, PhD 2000 Calgary (Alberta)

**Moeller, Aleidine** –1990; Greer Professor, Teaching, Learning and Teacher Education; BA 1969 Creighton; MA 1971 Wisconsin (Madison); PhD 1979 Nebraska (Lincoln)

**O'Hanlon, James** –1966; Professor, Teaching, Learning and Teacher Education; BA 1957 Nebraska (Lincoln); MA 1958 Ohio State; EdD 1964 Nebraska (Lincoln)

**Pederson, Jon** –2008; Professor, Teaching, Learning and Teacher Education; BS 1982, MEd 1988, PhD 1990 Nebraska (Lincoln)

**Petrone, Robert** –2008; Assistant Professor, Teaching, Learning and Teacher Education; BA 1996 SUNY (Genesco); MA 2002 North Arizona; PhD 2008 Michigan State

**Phillips, Kathy** –1996; Assistant Professor of Practice, Teaching, Learning and Teacher Education; BS 1976 West Virginia State; MA 1977 West Virginia; PhD 1995 Oklahoma

**Raible, John** –2006; Assistant Professor, Teaching, Learning and Teacher Education; BA 1983, MEd 2000, EdD 2005 Massachusetts (Amherst)

**Reeves, Jenelle** –2005; Assistant Professor, Teaching, Learning and Teacher Education; BA 1991 Central; MEd 1996 Washington; PhD 2002 Tennessee

**Sarroub, Loukia K.** –2001; Assistant Professor, Teaching, Learning and Teacher Education; BA 1994 Chicago; PhD 2000 Michigan State

**Steckelberg, Allen L.** –1998; Associate Professor, Teaching, Learning and Teacher Education; BS 1974, MA 1978, PhD 1992 Nebraska (Lincoln)

**Swidler, Stephen** –1995; Associate Professor, Teaching, Learning and Teacher Education; BA 1985 St. Norbert; MSW 1989 Michigan; PhD 1995 Michigan State

**Trainin, Guy** –2002; Assistant Professor, Teaching, Learning and Teacher Education; BA 1994 Tel Aviv (Israel); MA 1999, PhD 2002 California (Riverside)

**Walter, L. James** –1977; Professor, Teaching, Learning and Teacher Education and Associate Dean, College of Education and Human Sciences; BA 1965 Kearney; MA 1968 Oregon; EdD 1973 Nebraska (Lincoln)

**Wandzilak, Thomas** –1978; Associate Professor, Teaching, Learning and Teacher Education; Director Field Experiences, Certification Officer, Student Services Center; BA 1971, MS 1974 Queens; PhD 1977 Ohio State

**Wessels, Stephanie** –2008; Assistant Professor, Teaching, Learning and Teacher Education; BS 1995 Iowa State; MA 1997 Central Missouri; PhD 2008 Kansas State

**Wilson, Kathleen** –2001; Assistant Professor, Teaching, Learning and Teacher Education; BA 1989 Chapman; MS 1995 California State (Fullerton); PhD 2001 California (Riverside)

**Wunder, Susan** –1989; Associate Professor, Teaching, Learning and Teacher Education; BA 1969, MA 1971 Iowa; PhD 1993 Nebraska

## Textiles, Clothing, and Design

**Crews, Patricia** –1984; Cather Bessey Professor, Textiles, Clothing and Design; BS 1971 Virginia Tech; MS 1973 Florida State; PhD 1984 Kansas State

**Easley, Carol** –2005; Senior Lecturer, Textiles, Clothing and Design; BS 1975, MS 1980 Nebraska (Lincoln)

**Gao, Xia** –2007; Assistant Professor, Textiles, Clothing and Design; BA 1995, ME 1998 Doughua; MFA 2006 Wisconsin (Madison)

**Ha, Young** –2006; Assistant Professor, Textiles, Clothing and Design; BA 1998 Hanyang (Seoul); MS 2002 PhD 2006 Ohio State

**Horvay, Martha** –2005; Senior Lecturer, Textiles, Clothing and Design; BSDes 1971 Michigan; MA 1974 Louisville; MFA 1980 Tyler School of Art-Temple

**James, Michael** –2000; Ardis James Professor and Chair, Textiles, Clothing and Design; BFA 1971 Massachusetts (Dartmouth); MFA 1973 Rochester Institute of Technology

**Kean, Rita C.** –1980; Dean of Undergraduate Studies and Professor, Textiles, Clothing and Design; BS 1971 SUNY (Buffalo); MS 1975, PhD 1984 Nebraska (Lincoln)

**McLeod, Harriet** –2000; Assistant Professor, Textiles, Clothing and Design; BS 1992 Florida; MS 1998, PhD 2003 Iowa State

**Miller, Nancy** –2002; Professor, Textiles, Clothing and Design; BS 1978, MS 1979, PhD 1994 Nebraska (Lincoln)

**Niemeyer, Shirley** –1985; Professor\* and Extension Specialist, Textiles, Clothing and Design; BS 1968 Nebraska (Lincoln); MS 1982 Iowa State; PhD 1990 Nebraska (Lincoln)

**Trout, Barbara** –1981; Professor, Textiles, Clothing and Design; BS 1970 Nebraska (Lincoln); MS 1978 Colorado State; PhD 1987 Nebraska (Lincoln)

**Vigna, Diane** –2000; Associate Professor\* and Extension Specialist Textiles and Apparel, Textiles, Clothing and Design; BS 1971, MS 1990, PhD 1996 Nebraska (Lincoln)

**Weiss, Wendy** –1986; Professor, Textiles, Clothing and Design; BA 1979 Colorado; MFA 1983 Kansas

**Yang, Yiqi** –2001; Professor, Textiles, Clothing and Design; BS 1980 Shanghai Textile Institute; ME 1984 China Textile; PhD 1991 Purdue

## College of Engineering

### Architectural Engineering

**Erdogmus, Ece** –2004; Assistant Professor\*\*, Architectural Engineering; BS 1999 Middle East Technical (Turkey); MS 2001, PhD 2004 Penn State

**Henze, Gregor** –1999; Associate Professor\*\*, Architectural Engineering; BS 1989 TEC (Berlin); MS 1991 Oregon State; PhD 1995 Colorado

**Houser, Kevin** –1998; Associate Professor\*\*, Architectural Engineering; BAE 1993, PhD 1997 Penn State

**Li, Haorong** –2005; Assistant Professor\*\*, Architectural Engineering; BS 1997 Nanchang; MS 2000 Tsinghua; PhD 2004 Purdue

**Liu, Mingsheng** –1999; Professor\*\*, Architectural Engineering; BS 1982, MS 1984 Harbin; PhD 1992 Texas A&M

**Merkel, Kenneth** –1978; Professor\*\*, Architectural Engineering; BS 1960 Washington; BS 1976 Lake Erie; MBA 1969, MS 1975 Case Western Reserve; MA 1983, PhD 1984 Fielding Institute; MSIE 1994 Nebraska (Lincoln)

**Tiller, Dale** –1999; Associate Professor\*\*, Architectural Engineering; BA 1983 Carleton; DPhil 1989 Oxford

**Wang, Lily** –2000; Assistant Professor\*\*, Architectural Engineering; BS 1993 Princeton; PhD 1999 Penn State

**Waters, Clarence** –2000; Associate Professor\*\*, Architectural Engineering; BS 1978, MS 1988 Kansas State; PhD 1993 Penn State

**Yuill, Grenville** –1998; Professor\*\*, Architectural Engineering; BS 1959 Manitoba; MS 1961 Birmingham; PhD 1972 Minnesota

## Biological Systems Engineering

**Adamchuk, Viacheslav I.** –2000; Associate Professor\*, Biological Systems Engineering; BS 1996 Ukraine; MS 1998, PhD 2000 Purdue

**Bashford, Gregory R.** –2003; Assistant Professor, Biological Systems Engineering; BS 1991 Nebraska (Lincoln); PhD 1995 Duke

**Dickey, Elbert C.** –1978; Professor\*, Biological Systems Engineering; Dean, Extension; BS 1970, MS 1974, PhD 1978 Illinois

**Dvorak, Bruce I.** –1994; Associate Professor, Biological Systems Engineering and Civil Engineering; BS 1987 Nebraska (Lincoln); MS 1990, PhD 1994 Texas

**Edwards, Donald M.** –1989; Professor Emeritus, Biological Systems Engineering; BS 1960, MS 1961 South Dakota State; PhD 1966 Purdue

**Eisenhauer, Dean E.** –1975; Professor, Biological Systems Engineering; BS 1971, MS 1973 Kansas State; PhD 1984 Colorado State

**Franti, Thomas G.** –1993; Associate Professor\*, Biological Systems Engineering; BS 1983 Wisconsin (Madison); MS 1985 Iowa State; PhD 1987 Purdue

**Hanna, Milford A.** –1975; Professor, Biological Systems Engineering and Food Science and Technology; Director, Industrial Agricultural Products Center; BS 1969, MS 1971, PhD 1973 Penn State

**Hoy, Roger M.** –2006; Professor, Biological Systems Engineering; Director, Nebraska Tractor Test Laboratory; BS 1984 Georgia; MS 1986, PhD 1990 North Carolina State

**Irmak, Suat** –2003; Assistant Professor\*, Biological Systems Engineering; BS 1992 Cukurova (Turkey); ME 1996 Mediterranean (Turkey); PhD 2002 Florida

**Istanbulluoglu, Erkan** –2005; Assistant Professor, Biological Systems Engineering and Geosciences; BS 1996, MS 1998 Uludag (Turkey); PhD 2003 Utah State

**Jones, David D.** –1989; Professor, Biological Systems Engineering; BS 1984, MS 1986 Texas A&M; PhD 1988 Oklahoma State

**Kocher, Michael F.** –1990; Associate Professor, Biological Systems Engineering; BS 1979, MS 1983 Nebraska (Lincoln); PhD 1986 Oklahoma State

**Koelsch, Richard K.** –1995; Associate Professor\*, Biological Systems Engineering and Animal Science; Assistant Dean, Extension; BS 1975, MS 1977 Kansas State; PhD 1992 Cornell

**Kranz, William L.** –1985; Associate Professor\*, Biological Systems Engineering and Northeast Research and Extension Center; BS 1976 South Dakota State; MS 1981 Nebraska (Lincoln); PhD 1998 Iowa State

**Martin, Derrel L.** –1982; Professor, Biological Systems Engineering; BS 1975, MS 1979 Nebraska (Lincoln); PhD 1984 Colorado State

**Meyer, George E.** –1978; Professor, Biological Systems Engineering; BS 1967 Cornell; MS 1971, PhD 1972 Massachusetts

**Pannier, Angela K.** –2007; Assistant Professor, Biological Systems Engineering; BS 2001, MS 2002 Nebraska (Lincoln); PhD 2007 Northwestern

**Schinstock, Jack L.** –1977; Professor, Biological Systems Engineering; Associate Dean, College of Agricultural Sciences and Natural Resources; BA 1970 Brockport State; MAg 1974 Florida; EdD 1977 Virginia Tech

**Schulte, Dennis D.** –1978; Professor, Biological Systems Engineering; BS 1968 Nebraska (Lincoln); MS 1970, PhD 1975 Cornell

**Shelton, David P.** –1976; Professor\*, Biological Systems Engineering and Northeast Research and Extension Center; BS 1975, ME 1976 Cornell

**Smith, John A.** –1981; Professor\*, Biological Systems Engineering and Panhandle Research and Extension Center; BS 1970 Tri-State; MS 1978 Wyoming

**Stowell, Richard R.** –2001; Associate Professor\*, Biological Systems Engineering and Animal Science; BS 1986, MS 1988 Wisconsin; PhD 1993 Michigan State

**Subbiah, Jeyamkondan** –2004; Assistant Professor, Biological Systems Engineering and Food Science and Technology; BS 1997 Tamil Nadu Agricultural (India); MS 1999 Manitoba (Canada); PhD 2004 Oklahoma State

**vanDonk, Simon J.** –2007; Assistant Professor\*, Biological Systems Engineering and West Central Research and Extension Center; BS 1982, MS 1985 Wageningen (Netherlands); PhD 1999 Georgia

**Weller, Curtis L.** –1992; Professor, Biological Systems Engineering and Food Science and Technology; BS 1977, MS 1983, PhD 1987 Illinois

**Woldt, Wayne E.** –1991; Associate Professor\*, Biological Systems Engineering; BS 1978 Colorado State; MS 1986, PhD 1990 Nebraska (Lincoln)

**Yang, Yigi** –2001; Professor, Biological Systems Engineering and Textiles, Clothing and Design; BS 1980 Shanghai Textile Institute; ME 1984 China Textile; PhD 1991 Purdue

**Yoder, Ronald E.** –2004; Professor and Head, Biological Systems Engineering; BS 1976 Drexel; MS 1978 Clemson; PhD 1988 Colorado State

**Yonts, C. Dean** –1980; Associate Professor\*, Biological Systems Engineering and Panhandle Research and Extension Center; BS 1974, MS 1978 Wyoming

## Chemical and Biomolecular Engineering

**Brand, Jennifer** –1992; Professor, Adjunct, Chemical and Biomolecular Engineering; BS 1973, MS 1978 Michigan; PhD 1992 California (San Diego)

**Demirel, Yasar** –2006; Senior Lecturer, Chemical and Biomolecular Engineering; BS, MS 1975 Hacettepe (Ankara); PhD 1981 Birmingham (UK)

**Hendrix, James** –1995; Professor, Chemical and Biomolecular Engineering; BS 1966, MS 1968, PhD 1969 Nebraska (Lincoln)

**Inan, Mehmet** –2002; Research Assistant Professor, Chemical and Biomolecular Engineering; BS 1990, MS 1996, PhD 2000 Nebraska (Lincoln)

**Larsen, Gustavo** –1993; Professor, Chemical and Biomolecular Engineering; BS 1985 Mar del Plata (Argentina); PhD 1992 Yale

**Lauderback, Lee** –1990; Associate Professor, Chemical and Biomolecular Engineering; BS 1975, MS 1977, PhD 1982 Purdue

**Maheshwari, Vivek C.** –2007; Research Assistant Professor, Chemical and Biomolecular Engineering; BTech 1998 Indian Institute of Technology (New Delhi); MS 2001 Wayne State; PhD 2006 Virginia Tech (Blacksburg)

**Mammedov, Tarlan** –2006; Research Assistant Professor, Chemical and Biomolecular Engineering; MS 1980 Azerbaijaih State; PhD 1987 Moscow

**Meagher, Michael** –2000; Professor, Chemical and Biomolecular Engineering; BS 1980 Colorado State; MS 1984, PhD 1987 Iowa State

**Noureddini, Hossein** –1994; Associate Professor, Chemical and Biomolecular Engineering; BS 1975 Tulsa; MS 1977, PhD 1991 Nebraska (Lincoln)

**Saraf, Ravi** –2004; Professor, Chemical and Biomolecular Engineering; BS 1980 Indian Institute of Technology; MS 1986, PhD 1987 Massachusetts (Amherst)

**Singh, Gaurav** –2007; Research Assistant Professor, Chemical and Biomolecular Engineering; BTech 2000 Indian Institute of Technology (New Delhi); MEng 2005, PhD 2006 Virginia Polytechnic Institute (Blacksburg)

**Skotak, Maciej** –2007; Research Assistant Professor, Chemical and Biomolecular Engineering; MSc 1999 Podlasie (Poland); PhD 2004 Institute of Physical Chemistry of Polish Academy of Sciences (Warsaw, Poland)

**Subramanian, Anu** –2001; Associate Professor, Chemical and Biomolecular Engineering; BTech Nagpur; MTech 1986 India; MS 1989 Iowa; PhD 1995 Virginia Polytechnic Institute

**Swanson, Stephen T.** –2001; Research Assistant Professor, Chemical and Biomolecular Engineering; BS 1985, MS 1992, PhD 1993 California (San Diego)

**Timm, Delmar C.** –1967; Professor, Chemical and Biomolecular Engineering; BS 1962, MS 1965, PhD 1967 Iowa State

**Van Cott, Kevin** –2004; Associate Professor, Chemical and Biomolecular Engineering; BS 1991 Purdue; PhD 1996 Virginia Tech

**Velander, William** –2003; Professor and Chair, Chemical and Biomolecular Engineering; BS 1977 Illinois Benedictine; MChem 1980 Illinois Institute of Technology; PhD 1987 Penn State

**Viljoen, Hendrik** –1992; Professor, Chemical and Biomolecular Engineering; BS 1979, MS 1981, PhD 1985 Pretoria (South Africa)

## Civil Engineering

**Admiraal, David M.** –1999; Associate Professor, Civil Engineering; BS 1991 Calvin College; MS 1993, PhD 1999 Illinois

**Azizinamini, Atorod** –1989; Professor, Civil Engineering; BS 1977 Oklahoma; MS 1982, PhD 1985 South Carolina

**Bartelt-Hunt, Shannon** –2006; Assistant Professor\*\*, Civil Engineering; BS 1998, MS 2000 Northwestern; PhD 2004 Virginia (Charlottesville)

**Benak, Joseph, V.** –1967; Professor\*\*, Civil Engineering; BS 1952 Nebraska (Lincoln); MS 1956, PhD 1967 Illinois

**Bogardi, Istvan** –1988; Professor, Civil Engineering; MS 1962, PhD 1965, MS 1969 Technical University (Budapest)

**Dahab, Mohamed F.** –1983; Professor and Chair, Civil Engineering; BS 1974 Iowa; MS 1976, PhD 1982 Iowa State

**Dvorak, Bruce** –1994; Associate Professor, Civil Engineering; BS 1987 Nebraska (Lincoln); MS 1990, PhD 1994 Texas (Austin)

**Guo, Junke** –2005; Assistant Professor\*\*, Civil Engineering; BS 1983 Wuhan (China); MS 1995 Purdue; PhD 1998 Colorado State

**Irmak, Ayse** –2007; Assistant Professor, Civil Engineering; BE 1993 Cukurova (Turkey); ME 1998, PhD 2002 Florida

**Jensen, Wayne** –2001; Associate Professor, Civil Engineering; BS 1973, MS 1975 Nebraska (Lincoln); MS 1983 Southern California; MS 1998, PhD 2001 Wyoming

**Jones, Elizabeth G.** –1996; Associate Professor\*\*, Civil Engineering; BS 1984 Colorado State; MS 1988, PhD 1996 Texas (Austin)

**Khattak, Aemal J.** –2000; Associate Professor, Civil Engineering; BS N.W.F.P. 1988 Engineering and Technology (Pakistan); MS 1995 Penn State; PhD 1999 North Carolina State

**Kim, Yong Rak** –2005; Assistant Professor, Civil Engineering; BS 1997 Hanyang (Korea); MS 1999, PhD 2003 Texas A&M

**Krause, Gary L.** –1990; Associate Professor\*\*, Civil Engineering; BS 1982, MS 1986 Cincinnati; PhD 1990 Michigan

**Moore, Raymond K.** –1997; Professor\*\*, Civil Engineering; BSCE 1966, MS 1968 Oklahoma State; PhD 1971 Texas (Austin)

**Moussavi, Massoum** –1987; Associate Professor\*\*, Civil Engineering; BSCE 1980 West Virginia Institute of Technology; MS 1982, PhD 1984 Virginia Polytechnical Institute

**Nowak, Andrzej S.** –2005; Professor, Civil Engineering; MS 1970, PhD 1975 Politechnika Warszawa (Warsaw, Poland)

**Rilett, Laurence R.** –2004; Professor, Civil Engineering; BS 1982, MS 1987 Waterloo (Ontario); PhD 1992 Queen's (Ontario)

**Rohde, John R.** –1992; Associate Professor, Civil Engineering; BS 1981, MS 1983, PhD 1986 Iowa State

**Sicking, Dean** –1992; Professor, Civil Engineering; BSME 1980, MSCE 1987, PhD 1992 Texas A&M

**Stansbury, John S.** –1995; Associate Professor\*\*, Civil Engineering; BS Nebraska (Kearney); MS, PhD Nebraska (Lincoln)

**Tadros, Maher K.** –1979; Professor\*\*, Civil Engineering; BS 1967, MS 1971 Assiut (Egypt); PhD 1975 Calgary

**Tuan, Christopher Y.** –1996; Associate Professor\*\*, Civil Engineering; BS 1977 National (Taiwan); MS 1979, PhD 1983 Wisconsin (Madison)

**Woldt, Wayne E.** –1998; Associate Professor\*, Civil Engineering; BS 1978 Colorado State; MS 1986, PhD 1990 Nebraska (Lincoln)

**Zhang, Tian** –1994; Professor\*\*, Civil Engineering; BS, Wuhan Polytechnical (Uuham, China); MS 1982 Tsinghua (Beijing, China); PhD 1994 Cincinnati

## Computer and Electronics Engineering

**Chen, Bing** –1969; Professor and Chair, Computer and Electronics Engineering; BS 1967, MS 1970, PhD 1978 Nebraska (Lincoln)

**Detloff, Herbert** –1997; Senior Lecturer, Computer and Electronics Engineering; BS 1990 Nebraska (Omaha); BSET 1994 Nebraska (Lincoln); MS 1992 Nebraska (Omaha)

**Gilmore, Alisa** –2003; Senior Lecturer, Computer and Electronics Engineering; BSEE 1995 Georgia Institute of Technology; MS 1995 Spellman; MSEE 2001 Georgia Institute of Technology

**Jang, Won Mee** –1998; Assistant Professor, Computer and Electronics Engineering; BA 1984 Minnesota; MS Computer Engineering 1987 George Mason; DSCEE 1996 George Washington

**Liu, Chunsheng** –2003; Assistant Professor, Computer and Electronics Engineering; MS 2000 Tsinghua; PhD 2003 Duke

**Nyugen, Lim** –1996; Associate Professor, Computer and Electronics Engineering; BSEE, BS Math 1983 MIT; MSEE 1991 California Institute of Technology; PhD 1996 Rice

**Peng, Dongming** –2002; Assistant Professor, Computer and Electronics Engineering; MS 1996 Aeronautics and Astronautics (Beijing); PhD 2003 Texas A&M

**Sash, Roger D.** –1976; Associate Professor, Computer and Electronics Engineering; BS 1967 Iowa State; MS 1980 Nebraska (Lincoln)

**Sedlacek, Charles L.** –1958; Professor, Computer and Electronics Engineering; BA 1959, MS 1967 Nebraska (Omaha)

**Sharif, Hamid** –1986; Professor, Computer and Electronics Engineering Technology; BSEE 1982 Iowa; MSEE 1984 Missouri (Columbia); PhD 1996 Nebraska (Lincoln)

## Computer Science and Engineering

(See College of Arts and Sciences for faculty listing.)

## Construction Management

**Berryman, Charles W.** –1996; Associate Professor, Construction Management; BS 1991, MS 1992, PhD 1995 Texas A&M

**Fischer, Bruce A.** –2001; Associate Professor, Construction Management; BS 1979, MS 1982 Nebraska (Lincoln)

**Harmon, Paul** –1980; Associate Professor, Construction Management; BSCE 1972, MS 1976 Nebraska (Lincoln)

**Jensen, Wayne** –2001; Associate Professor, Construction Management; BS 1973, MS 1975 Nebraska (Lincoln); MS 1983 Southern California; MS 1998, PhD 2001 Wyoming

**Shen, Zhigang** –2007; Assistant Professor, Construction Management; BE 1992 Zhengzhou; MArch 1997 Tongji; MSCompE 2003, PhD 2007 Florida

**Stentz, Terry** –1998; Associate Professor, Construction Management; BA 1970, BS 1974, AM 1978 Nebraska (Lincoln); MA 1989 Dartmouth; MSIE 1996, PhD 1997 Nebraska (Lincoln)

**Wentz, Timothy G.** –1996; Associate Professor and Interim Program Director, Construction Management; BSME 1975, MBA 1976 Nebraska (Lincoln)

## Construction Systems

**Bernstein, Stuart P.** –2002; Assistant Professor, Construction Systems; BS 1997 Syracuse; MS 1999 Virginia Polytechnic Institute

**Bonsell, John** –1982; Associate Professor, Construction Systems; BS 1979, MS 1980 Chadron

**Brenneman, R. Michael** –1982; Senior Lecturer, Construction Systems; BS 1968, MS 1971, MBA 1982 Nebraska (Omaha)

**Cho, Yong** –2005; Assistant Professor, Construction Systems; BS 1996 Inha (Korea); MS 1997 Georgia Institute of Technology; PhD 2000 Texas (Austin)

**Foster, E. Terence** –1992; Professor, Construction Systems; SB 1963, SM 1964 MIT; PhD 1967 California (Berkeley)

**Goedert, James D.** –1989; Associate Professor and Chair, Construction Systems; BS 1983 Nebraska (Omaha); MBA 1989 Indiana (South Bend); PhD 1996 Nebraska (Lincoln)

**Haggin, Ronald K.** –1979; Associate Professor, Construction Systems; BS 1967, March 1974, BSCE 1977 Texas A&M

**Holmes, William W.** –1976; Associate Professor, Construction Systems; BA 1966 Hastings; BArch 1967 Nebraska (Lincoln)

**Morocus, George** –2005; Assistant Professor, Construction Systems; BS 1994, MS 1997 Cairo; PhD 2000 Concordia (Quebec)

**Pedersen, Keith E.** –1976; Assistant Professor, Construction Systems; BArch 1972, MArch 1981 Nebraska (Lincoln)

**Schwer, Avery D.** –1976; Associate Professor, Construction Systems; BS 1974, MA 1977 Wisconsin; PhD 2001 Nebraska (Lincoln)

**Sires, Thomas H.** –1964; Professor, Construction Systems; Minorities in Engineering Coordinator-Nebraska (Lincoln); BS 1960, BS 1971, MS 1967 Nebraska (Omaha)

## Electrical Engineering

**Alexander, Dennis R.** –1976; Kingery College Professor, Electrical Engineering; BS 1971, MS 1973, PhD 1976 Kansas State

**Asgarpoor, Sohrab** –1989; Associate Professor and Associate Chair, Electrical Engineering; BSc 1978, MSc 1981, PhD 1986 Texas A&M

**Bahar, Ezekiel** –1967; Professor, Electrical Engineering; BS 1958, MS 1960 Institute of Technology (Israel); PhD 1964 Colorado

**Balkir, Sina** –1998; Associate Professor, Electrical Engineering; BS 1987 Bogazici; MS 1989, PhD 1992 Northwestern

**Bauer, Mark** –2006; Senior Lecturer, Electrical Engineering; BS 1980, MS 1989, PhD 2001 Nebraska (Lincoln)

**Boye, A. John** –1974; Professor, Electrical Engineering; BS 1968, MS 1973, PhD 1984 Nebraska (Lincoln)

**Franke Schubert, Eva** –2006; Assistant Professor, Electrical Engineering; BS 1989, PhD 1994 Leipzig

**Gursoy, Mustafa C.** –2004; Assistant Professor, Electrical Engineering; BS 1999 Bogazici; PhD 2004 Princeton

**Hoffman, Michael** –1993; Associate Professor, Electrical Engineering; BS 1985 Rice; MS 1987 USC; PhD 1992 Minnesota

**Hudgins, Jerry L.** –2004; Professor and Chair, Electrical Engineering; BSEE 1980, MSEE 1982, PhD 1985 Texas Tech

**Ianno, Natale J.** –1981; Blackman/Lederer College Professor, Electrical Engineering; BS 1978, MS 1980, PhD 1981 Illinois

**Lu, Yongfeng** –2002; Lott Professor, Electrical Engineering; BS 1984 Tsinghua (China); MS 1988, PhD 1991 Osaka (Japan)

**Patterson, Dean** –2004; Visiting Professor, Electrical Engineering; BE 1962, ME 1966, PhD 1972, DipEd 1982 Adelaide

**Pérez, Lance C.** –1996; Associate Professor, Electrical Engineering; BSEE 1987 Virginia; MSEE 1989, PhD 1995 Notre Dame

**Russell, David J.** –2004; Instructor, Electrical Engineering; BSCE 1996, MS 2001 Nebraska (Lincoln)

**Sayood, Khalid** –1982; Henson College Professor, Electrical Engineering; BS 1977, MS 1979 Rochester; PhD 1982 Texas A&M

**Schubert, Mathias** –2005; Associate Professor, Electrical Engineering; BS 1994, PhD 1997 Leipzig

**Snyder, Paul G.** –1985; Associate Professor, Electrical Engineering; BS 1979 Texas Tech; MS 1981, PhD 1984 USC

**Soukup, Rodney J.** –1976; Henson College Professor, Electrical Engineering; BS 1961, MS 1964, PhD 1969 Minnesota

**Thompson, Dan** –2004; Research Assistant Professor, Electrical Engineering; BS 1988, MS 1989, PhD 2004 Nebraska (Lincoln)

**Vakilzadian, Hamid** –1985; Associate Professor, Electrical Engineering; BS 1971 Arya-Mehr (Iran); MS 1978, PhD 1985 Arizona

**Varner, Jerald L.** –1959; Associate Professor, Electrical Engineering; BS 1963, MS 1965, PhD 1972 Nebraska (Lincoln)

**Velipasalar, Senem** –2004; Assistant Professor, Electrical Engineering; BS 1999 Bogazici; PhD 2007 Princeton

**Woollam, John A.** –1979; George Holmes Distinguished Professor, Electrical Engineering; BS 1961 Kenyon; MS 1963, PhD 1967 Michigan State; MS 1978 Case Western

## Engineering Mechanics

**Allen, David** –1998; Dean, College of Engineering; Professor, Engineering Mechanics; BS 1972, ME 1977, PhD 1980 Texas A&M

**Baesu, Eveline** –1998; Associate Professor, Engineering Mechanics; MS 1987 Bucharest; PhD 1998 Berkeley

**Bobaru, Florin** –2001; Assistant Professor, Engineering Mechanics; BS 1995, MS 1997 Bucharest; PhD 2000 Cornell

**Dzenis, Yuris A.** –1994; Robert C. McBroom Professor, Engineering Mechanics; MS 1982 Latvian State; PhD 1990 Latvian Academy of Sciences; PhD 1994 Texas (Austin)

**Feng, Ruqiang** –1997; Associate Professor, Engineering Mechanics; MS 1991, PhD 1992 Johns Hopkins

**Li, Jiangyu** –2001; Assistant Professor, Engineering Mechanics; BS 1994 Tsinghua (China); MS 1996, PhD 1998 Colorado

**Negahban, Mehrdad** –1989; Associate Professor, Engineering Mechanics; BS 1982 Iowa; MS 1984, PhD 1988 Michigan

**Tan, Li** –2005; Assistant Professor, Engineering Mechanics; BE 1994. ME 1997 Tsinghua (China); PhD 2002 Michigan

**Turner, Joseph** –1997; Associate Professor and Chair, Engineering Mechanics; BS 1988, MEng 1988 Iowa State; PhD 1994 Illinois (Urbana)

**Yang, Jiashi** –1997; Associate Professor, Engineering Mechanics; MS 1988 Syracuse; MA 1990, PhD 1994 Princeton

## Industrial and Management Systems Engineering

**Adams, Stephanie G.** –1998; Associate Professor, Industrial and Management Systems Engineering; Associate Dean, College of Engineering; BSME 1989 North Carolina A&T; ME 1991 Virginia; PhD 1998 Texas A&M

**Ballard, John L.** –1974; Professor, Industrial and Management Systems Engineering; BSIE 1971, MSIE 1972, PhD 1974 Arkansas

**Bishu, Ramaratnam R.** –1985; Professor, Industrial and Management Systems Engineering; BTech 1970 India; MS 1983, PhD 1986 New York (Buffalo)

**Choobineh, Fred** –1978; Professor, Industrial and Management Systems Engineering; Director, Nebraska EPSCoR; BSEE 1972, MSIE 1976, PhD 1979 Iowa State

**Cochran, David J.** –1972; Professor, Industrial and Management Systems Engineering; BA 1964, MS 1970, PhD 1973 Oklahoma

**Hallbeck, M. Susan** –1989; Professor, Industrial and Management Systems Engineering; BSIE 1984 Iowa State; MSIE 1985 Texas Tech; PhD 1990 Virginia Polytechnic Institute

**Hoffman, Richard O.** –1970; Professor, Industrial and Management Systems Engineering; BS 1963, MS 1966 Iowa State; PhD 1971 Virginia Polytechnical Institute

**Jones, Erick C.** –2003; Assistant Professor, Industrial and Management Systems Engineering; BSIE 1993 Texas A&M; MSIE 1996, PhD 2003 Houston

**Ko, Jeonghan** –2007; Assistant Professor, Industrial and Management Systems Engineering; BSME 1993, MSME 2000 Seoul National; MSIE 2004, PhD 2006 Michigan

**Rajurkar, Kamlakar P.** –1983; Professor and Interim Chair, Industrial and Management Systems Engineering; BE 1966 Jabolpur (India); MS 1978, PhD 1981 Michigan Tech

**Riley, Michael W.** –1975; Professor, Industrial and Management Systems Engineering; BSEE 1968 Missouri (Rolla); MSME 1973 New Mexico State; PhD 1975 Texas Tech

**Savory, Paul A.** –1994; Associate Professor, Industrial and Management Systems Engineering; Director, Summer Sessions and Flexible Programs; BSCS 1988, MSOR 1989 Oregon State; PhD 1993 Arizona State

**Schneider, Morris H.** –1965; Professor Emeritus, Industrial and Management Systems Engineering; BS 1951, BS 1959 Nebraska (Lincoln); MS 1961 Kansas State; PhD 1966 Oklahoma State

**Williams, Robert E.** –1993; Associate Professor and Interim Associate Chair, Industrial and Management Systems Engineering; BS 1984 Lehigh; MS 1989, PhD 1993 Nebraska (Lincoln)

## Mechanical Engineering

**Barton, John P.** –1986; Professor and Interim Chair, Mechanical Engineering; BS 1973 Missouri; MS 1974, PhD 1980 Stanford

**Coen-Brown, Karen L.** –1995; Lecturer, Mechanical Engineering; BS 1984, MS 1989 Nebraska (Lincoln)

**Cole, Kevin D.** –1988; Associate Professor, Mechanical Engineering; BS 1977 Iowa State; MS 1979 Minnesota; PhD 1986 Michigan State

**Farritor, Shane M.** –1998; Associate Professor, Mechanical Engineering; BS 1992 Nebraska (Lincoln); MS 1994, PhD 1998 MIT

**Gogos, George** –1993; Professor, Mechanical Engineering; BS 1980 MIT; MS 1982, PhD 1986 Pennsylvania

**Lou, David Y. S.** –1993; Professor, Mechanical Engineering; BS 1959 National Taiwan; MS 1963, ScD 1967 MIT

**Nelson, Carl** –2005; Assistant Professor, Mechanical Engineering; BS 2000 Oklahoma; MS 2002, PhD 2005 Purdue

**Reid, John** –1993; Professor, Mechanical Engineering; BS 1981, MS 1983, PhD 1990 Michigan State

**Robertson, Brian** –1990; Professor, Mechanical Engineering; BSc 1975, PhD 1979 Glasgow (Scotland)

**Rohde, Suzanne L.** –1992; Professor, Mechanical Engineering; BS 1985 Iowa State; MS 1988, PhD 1991 Northwestern

**Schade, George R.** –1979; Associate Professor, Mechanical Engineering; BS 1967, MS 1969, PhD 1974 Iowa State

**Shield, Jeffrey** –2001; Professor, Mechanical Engineering; BS 1987 South Dakota School of Mines; PhD 1992 Iowa State

**Szydłowski, Wiesław** –1983; Associate Professor, Mechanical Engineering; MS 1966, PhD 1975 Technical (Warsaw, Poland)

**To, C.W. Solomon** –1996; Professor, Mechanical Engineering; BS 1973 Southampton; MS 1975 Calgary; PhD 1980 Southampton

**Wu, Lin** –2003; Assistant Professor, Mechanical Engineering; BS 1993 Beijing Institute of Technology; MS 1997 Arizona State; PhD 2001 California (Berkeley)

**Zhang, Zhaoyan** –2002; Assistant Professor, Mechanical Engineering; BS 1990 North China Institute of Electric Power; MS 1995 Beijing Institute of Polymer Technology; PhD 2000 Penn State

## Hixson-Lied College of Fine and Performing Arts

### Art and Art History

**Bartels, Ron** –1989; Professor (Graphic Design), Art and Art History; BFA 1970 Kansas City Art Institute; MFA 1972 California Institute of Arts

**Bolland, Andrea** –1994; Associate Professor (Art History), Art and Art History; BA 1982 Washington; MA 1986, PhD 1992 North Carolina

**Cal, Santiago** –2000; Associate Professor (Sculpture), Art and Art History; BFA 1995 Kutztown State; MFA 1998 Virginia Commonwealth

**Dominguez, Eddie** –1998; Associate Professor (Ceramics), Art and Art History; BFA 1981 Cleveland Institute of Art; MFA 1983 Alfred (New York)

**Forde, Ed** –2004; Professor and Chair, Art and Art History; BA 1968, MFA 1971 California (Santa Barbara)

**Fritz, Dana** –1998; Associate Professor (Visual Literacy), Art and Art History; BFA 1992 Kansas City Art Institute; MFA 1995 Arizona State

**Fuller, Shelley** –1991; Associate Professor (Photography), Art and Art History; BA 1981 Augustana; MFA 1989 Nebraska (Lincoln)

**Hoff, Michael C.** –1989; Professor (Art History), Art and Art History; AB 1977 Missouri; MA 1982 Florida State; PhD 1988 Boston

**Holz, Aaron** –2004; Assistant Professor (Painting), Art and Art History; BFA 1995 Moorhead State; MFA 2001 SUNY (Albany)

**Ingraham, Elizabeth** –1998; Associate Professor (Visual Literacy), Art and Art History; BA 1969 Colorado; JD 1973 Denver; MFA 1992 California (Santa Barbara)

**Katz, Wendy** –2000; Associate Professor (Art History), Art and Art History; BA 1988 Occidental; MA 1989 Michigan; PhD 1997 California (Los Angeles)

**Kendall, Gail** –1987; Professor (Ceramics), Art and Art History; BFA 1966, MFA 1974 Michigan

**Kunc, Karen** –1983; Professor (Printmaking), Art and Art History; BFA 1975 Nebraska (Lincoln); MFA 1977 Ohio State

**Mamiya, Christin** –1987; Professor (Art History), Art and Art History; Associate Dean, Hixson-Lied College of Fine and Performing Arts; BA 1977 Yale; MA 1982, PhD 1987 California (Los Angeles)

**Neal, Maureen (Mo)** –1994; Associate Professor (Sculpture), Art and Art History; BA 1988 Washington State; MFA 1991 Virginia Commonwealth

**Pinnell, Peter** –1995; Professor (Ceramics), Art and Art History; BAIS 1976 Columbia (Missouri); BFA 1980 Alfred (New York); MFA 1982 Colorado

**Souto, Francisco** –2004; Associate Professor (Printmaking), Art and Art History; BFA 2000 Herron School of Art; MFA 2002 Ohio State

**Stewart, Alison** –1989; Professor (Art History), Art and Art History; BA 1973 Syracuse; MA 1976 Queens College; PhD 1986 Columbia

**Williams, Sandra** –2000; Associate Professor (Visual Literacy), Art and Art History; BFA 1994 Cleveland Institute of Art; MFA 1999 Ohio State

### Dance

**Brown, Sarah** –2004; Lecturer (Dance), School of Music; BA 1999 Butler

**Learned, Vincent** –1990; Head Accompanist and Lecturer (Dance), School of Music; BFA 2004 Nebraska (Lincoln)

**Levine, Susan** –2004; Assistant Professor (Dance), School of Music; BA 1996 Keene State; MFA 1999 Smith

**Nevin, Lynne** –1993; Lecturer (Dance), School of Music; BA 1976 Nebraska (Lincoln)

### Music

**Anderson, Scott** –1996; Associate Professor (Trombone), School of Music; BM 1985 Iowa State; MM 1987 Northwestern; DMA 1995 Minnesota

**Bailey, John** –1986; Professor (Flute), School of Music; BS 1980 Indiana; MM 1981, DM 1987 Northwestern

**Barber, Carolyn** –2001; Associate Professor and Director of Bands, School of Music; BM 1990 Northwestern; MM 1992 Yale; DM 1995 Northwestern

**Barger, Diane** –1994; Professor (Clarinet), School of Music; BM 1988 Florida State; MM 1989 Northwestern; DM 1999 Florida State

**Barnes, Paul** –1995; Professor (Piano), School of Music; BM 1985, MM 1987, DM 1992 Indiana

**Bazan, Dale** –2007; Assistant Professor of Practice (Music Education), School of Music; BM/BE 1995 Manitoba; MM 2004 Northern Iowa; PhD 2007 Case Western

**Beaver, Gregory** –2005; Assistant Professor, Research/Creative Activity (Cello), School of Music; BM 1998 Rice; MM 2000, AD 2005 Juilliard

**Becker, Karen** –1995; Associate Professor (Cello), School of Music; BM 1984 Ohio; MM 1986, DMA 1999 Texas (Austin)

**Belflower, Alisa** –2000; Senior Lecturer (Voice/Music Theatre), School of Music; BM 1977, BA 1977 Furman; MME 1986 South Carolina

**Bouffard, Peter** –1990; Lecturer (Guitar), School of Music; BME 1987 Maine; MM 1990 Nebraska (Lincoln); DMA 2004 New England Conservatory of Music

**Bush Doug** –2001; Lecturer, School of Music; BME 1981 Kentucky; MM 2001 Nebraska (Lincoln)

**Bushard, Anthony** –2006; Assistant Professor (Music History), School of Music; BA 1996 St. John's; MM 2000, PhD 2006 Kansas

**Butler, Kathleen** –2004; Assistant Professor (Voice), School of Music; BM 1976, MM 1978 Louisiana State

**Chang-Barnes, Ann** –1995; Senior Lecturer (Piano), School of Music; BM 1985, MM 1987, DM 1993 Indiana

**Clinton, Mark** –1995; Associate Professor (Piano), School of Music; BM 1984, MM 1986 Peabody Conservatory of Johns Hopkins; DMA 1989 Rice

**Eklund, Peter** –1998; Associate Professor (Choral), School of Music; Director of Choral Activities; BM 1980, MA 1982, DMA 1992 Iowa

**Falcone, Anthony** –1998; Lecturer and Associate Director of Bands, School of Music; BME 1986, MM 1988 James Madison

**Fischer, Rebecca** –2005; Assistant Professor, Research/Creative Activity (Violin), School of Music; BA 1998 Columbia; MM 2000, AD 2005 Juilliard

**Foley, Gretchen** –2001; Associate Professor (Theory), School of Music; BM, BME 1984 Memorial (Newfoundland); PhD 1999 Western Ontario

**Fuelberth, Rhonda** –2001; Associate Professor (Secondary Choral Music Education), School of Music; BFAE 1991 Wayne State; MM 1997 Nebraska (Lincoln); PhD 2001 Missouri (Kansas City)

**Fuller, Craig** –1989; Senior Lecturer (Tuba and Euphonium), School of Music; BM 1978 Indiana

**Haar, Paul** –2004; Assistant Professor (Saxophone), School of Music; BM 1994, MM 1996 Kansas; DMA 2004 Texas (Austin)

**Hanrahan, Kevin** –2005; Assistant Professor (Voice), School of Music; BFA 1998, MAM 1999 Carnegie Mellon; MM 2002, DMA 2005 Arizona State

**Harler-Smith, Donna** –1976; Professor (Voice), School of Music; BA 1966 Denison; MM 1968 Cincinnati Conservatory

**Hibbard, Theresia** –2005; Assistant Professor (Choral), School of Music; BME 1978 Longwood; MM 1980 Colorado State; DMA 1994 Oregon

**Kleppinger, Stanley** –2007; Assistant Professor (Theory), School of Music; BME 1995 Drake; MM 2000, PhD 2006 Indiana

**Larson, Thomas** –1996; Lecturer (Jazz), School of Music; BM 1977 Berklee; MM 1984 Nebraska (Lincoln)

**Lefferts, Peter M.** –1989; Professor (Music History), School of Music; BA 1973, MA 1978, PhD 1983 Columbia

**Marks, Christopher** –2006; Assistant Professor (Organ), School of Music; BM 1992 Richmond; MM 1994 & 1995 Illinois (Urbana-Champaign); DMA 1999 Eastman

**Mattingly, Alan** –2006; Assistant Professor (Horn), School of Music; BM 1990 Alabama; MM 1992, DMA 1998 Florida State

**Mattingly, Jacqueline** –2008; Lecturer, School of Music; BM 1993 Brandon; MM 1995 Calgary; DMA 1998 North Carolina (Greensboro)

**McCray, Jeffrey** –2007; Assistant Professor (Bassoon), School of Music; BM 1996 Northwestern; MM 1998 Temple; MM 2001 Northwestern; DMA 2007 Michigan State

**McMullen, William** –1986; Professor (Oboe and Music Theory), School of Music; BME 1974 Baldwin-Wallace Conservatory; MM 1980, DMA 1985 Juilliard

**Moore, Brian** –1986; Associate Professor (Music Education), School of Music; BA, BM 1977 New Hampshire; MM 1982, PhD 1986 Wisconsin

**Narboni, Nicole** –1995; Senior Lecturer (Piano), School of Music; BM 1985 Austin; MM 1988 Rice; DMA 1992 Johns Hopkins

**Neely, David** –1993; Associate Professor (Violin), School of Music; BM 1984 Iowa State; MFA 1987 California Institute of Arts

**Nierman, Glenn** –1979; Professor (Music Education), School of Music; BM 1972 Washburn; MM 1977, DME 1979 Cincinnati

**Oliva, Giacomo** –2001; Professor, School of Music; Dean, Hixson-Lied College of Fine and Performing Arts; BME 1971, MM 1975 Mont Clair State; EdD 1980 New York

**Potter, Clark** –1996; Associate Professor (Viola), School of Music; BM 1983 Western Washington; MM 1985 Indianola; MFA 1987 California Institute of the Arts

**Richards, Eric** –2008; Assistant Professor (Composition), School of Music; BSME 1981, MM 1983 Duquesne; DMA 1994 Maryland

**Richmond, John W.** –2003; Professor and Director, School of Music; BS 1977 William Jewell; MM 1980 Conservatory of Music, Missouri (Kansas City); PhD 1990 Northwestern

**Romero, Albert** –1972; Professor (Percussion), School of Music; BSED 1970 Indiana; MM 1972 Ohio (Athens)

**Shomos, William** –1994; Associate Professor (Voice), School of Music; Director, Opera Program; BA 1982 Knox; MM 1983 Northwestern; DMA 1999 Illinois

**Sirota, Jonah** –2005; Assistant Professor, Research/Creative Activity (Viola), School of Music; BM 1998 Rice; MM 2000, AD 2005 Juilliard

**Starr, Pamela** –1987; Professor (Music History), School of Music; BA 1966 Harpur; MLS 1975 Columbia; PhD 1987 Yale

**White, Darryl** –1997; Associate Professor (Trumpet), School of Music; BM 1987 Youngstown State; MM 1991 Northwestern; DMA 2001 Colorado

**White, Russell** –1981; Associate Professor (Double Bass and Jazz Performance), School of Music; BM 1977 Cincinnati Conservatory; MM 1982 North Texas State

**White, Tyler** –1994; Associate Professor (Orchestra), School of Music; Director of Orchestral Activities; AB 1983 North Carolina; MFA 1986, DMA 1991 Cornell

**Woody, Robert** –2001; Associate Professor (Music Education), School of Music; BM 1990 Nebraska (Lincoln); MME 1993, MS 1998, PhD 1998 Florida State

**Wristen, Brenda** –2001; Associate Professor (Piano Pedagogy), School of Music; BA 1993 Lubbock Christian; MM 1995, PhD 1998 Texas Tech

**Yoon, Hye Jung** –2005; Assistant Professor, Research/Creative Activity (Violin), School of Music; BM 2000, AD 2000 Juilliard

## Theatre Arts

**Borden, Ian** –2008; Assistant Professor of Practice (Acting, Directing, Theatre Studies), Johnny Carson School of Theatre and Film; BA 1991 Simon Fraser; MFA 1999 Missouri (Kansas City); PhD 2009 Florida State

**Brown, Stan** –2000; Associate Professor (Stage Voice and Acting), Johnny Carson School of Theatre and Film; BA 1984, MFA 1989 South Carolina

**Endacott, Richard** –2000; Associate Professor (Film Production and Screenwriting), Johnny Carson School of Theatre and Film; BA 1985 Colorado College; MA 1990 Boston

**Grange, William** –1996; Professor (Theatre and Film History), Johnny Carson School of Theatre and Film; BA 1970 Toledo; MFA 1972 Columbia; PhD 1981 Indiana

**Parker, Scott** –2007; Assistant Professor (Lighting and Sound Design), Johnny Carson School of Theatre and Film; BA 1984 Bennington; MFA 1994 Brooklyn

**Smith, Harris** –1999; Associate Professor (Stage Movement and Acting), Johnny Carson School of Theatre and Film; BA 1986 Montana State; MFA 1991 Washington

**Smith, Virginia** –2000; Associate Professor (Directing and Acting), Johnny Carson School of Theatre and Film; BS 1970 Moorhead State; MFA 1993 Roosevelt

**Stauffer, Edward** –1979; Associate Professor (Technical Direction and Set Design), Johnny Carson School of Theatre and Film; BS 1969, MFA 1974 Penn State

**Stauffer, Janice** –1979; Associate Professor (Costume Design), Johnny Carson School of Theatre and Film; BA 1971 Penn State; MFA 1976 Boston

**Steger, Paul** –2005; Professor and Director, Johnny Carson School of Theatre and Film; BA 1986 St. Louis; MFA 1988 Western Illinois

**Teo, Sharon** –2000; Associate Professor (Film and New Media Production), Johnny Carson School of Theatre and Film; BS 1995 Texas; MFA 1999 Ohio

**Veneziano, Sandy** –2008; Assistant Professor (Scenic and Production Design), Johnny Carson School of Theatre and Film; BFA 1973, MA 1975, MFA 1977 Nebraska (Lincoln)

## College of Journalism and Mass Communications

**Alloway, Richard** –1986; Associate Professor (Broadcasting), Journalism; BA 1977, MA 2002 Nebraska (Lincoln)

**Anderson, Timothy** –2005; Associate Professor (News-Editorial), Journalism; BA 1974, MA 2007 Nebraska (Lincoln)

**Bender, John R.** –1990; Professor (News-Editorial), Journalism; BA 1970 Westminster (Missouri); MS 1977 Kansas; PhD 1991 Missouri

**Berens, Charlyne** –1996; Professor (News-Editorial), Journalism; BSED 1967 Concordia; MA 1995, PhD 2000 Nebraska (Lincoln)

**Botts, Jack** –1966; Professor Emeritus (News-Editorial), Journalism; BA 1949 Nebraska (Lincoln); MS 1950 Northwestern

**Bryant, Donald** –1963; Associate Professor Emeritus (Advertising), Journalism; BA 1952 Nebraska (Lincoln)

**Bullard, Sue Burzynski** –2008; Associate Professor (News-Editorial), Journalism; BA 1974 Michigan State; MS 2000 Central Michigan

**Burge, Gertrude** –2007; Lecturer, Journalism; BA 1974 Colorado; MA 1976 William and Mary

**Christensen, Kathryn** –2007; Professor of Practice (Broadcasting), Journalism; BA 1971 Nebraska (Lincoln)

**Creighton, Trina** –2001; Associate Professor (Broadcasting), Journalism; BA 1973 Iowa (Cedar Falls); MS 2008 Nebraska (Lincoln)

**Crumley, Wilma** –1965; Professor Emeritus, Journalism; Associate Dean Emeritus, College of Journalism; BA 1949 Midland; MA 1963, PhD 1966 Missouri

**Danielson, Jim E.** –1986; Assistant Professor Emeritus (Broadcasting), Journalism; BSED 1960 Central Missouri State; MA 1962, PhD 1978 Nebraska (Lincoln)

**Frazell, Daryl L.** –1990; Associate Professor Emeritus (News-Editorial), Journalism; BSJ 1959, MSJ 1960 Northwestern

**Garbacz, Mary H.** –2005; Lecturer, Journalism; BA 1975 Nebraska (Lincoln)

**Goff, Michael** –2000; Senior Lecturer (Advertising), Journalism; BSED 1971, MEd 1978, EdS 1990 Nebraska (Lincoln)

**Hachtmann, Frauke** –2002; Graduate Programs Chair and Associate Professor (Advertising), Journalism; BJ 1994, MA 1997, MBA 2000 Nebraska (Lincoln)

**Hassler, Michelle** –2007; Lecturer, Journalism; BJ 1980, MA 1989 Nebraska (Lincoln)

**Hull, Ron** –1988; Professor Emeritus (Broadcasting), Journalism; BA 1952 Dakota Wesleyan; MS 1955 Syracuse; EdD 1970 Nebraska (Lincoln)

**James, Stacy** –1988; Senior Lecturer (Advertising), Journalism; BA 1970, MA 1992 Nebraska (Lincoln)

**Johnsen, Carolyn** –2004; Lecturer (News-Editorial), Journalism; BA 1966, MA 1983 Nebraska (Lincoln)

**Kimbrough, Carla** –2008; Associate Professor (News-Editorial), Journalism; BJ 1984 Nebraska (Lincoln); MSJ 1987 Northwestern

**Larsen, Phyllis** –2000; Senior Lecturer (Advertising), Journalism; BS 1978, MA 1980 Nebraska (Lincoln)

**Lauerman, Meg** –1996; Assistant Professor (Advertising), Journalism; BA 1973 Nebraska (Lincoln); MA 1975 Michigan State; PhD 2000 Nebraska (Lincoln)

**Lee, Laurie Thomas** –1994; Professor (Broadcasting), Journalism; BS 1982 Kearney State; MA 1983 Iowa; PhD 1993 Michigan State

**Mayeux, Peter** –1969; Professor Emeritus (Broadcasting), Journalism; BA 1965 Southwest Louisiana; MA 1967 Iowa

**McCoy, Barney** –2006; Associate Professor (Broadcasting), Journalism; BS 1979 Kansas; MA 1996 Michigan State

**Miller, V.T.** –1974; Associate Professor Emeritus (Broadcasting), Journalism; BS 1955 Nebraska (Lincoln); MNS 1962 Arizona State

**Mitchell, Nancy** –1990; Professor (Advertising), Journalism; BSJ 1973 Northwestern; MA 1989 West Texas State; PhD 1998 Nebraska (Lincoln)

**Mitchell, R. Bruce** –2005; Lecturer (Advertising), Journalism; BA 1994 Doane

**Neal, James** –1971; Associate Professor Emeritus (News-Editorial), Journalism; BA 1949 Colorado; MA 1970 South Dakota State

**Norton, Will** –1990; Dean and Professor (News-Editorial), Journalism; BA 1963 Wheaton; MA 1971 Indiana; PhD 1974 Iowa

**Page, Alfred A., Jr.** –1982; Associate Professor Emeritus (News-Editorial), Journalism; BS 1956 Northwestern; MA 1986 Nebraska (Lincoln)

**Peon-Casanova, Luis** –2004; Assistant Professor (Advertising), Journalism; BS 1984 Texas; MA 2008 Nebraska (Lincoln)

**Quinlan, Mary Kay** –2005; Associate Professor (News-Editorial), Journalism; BA 1972 Nebraska (Lincoln); MA 1973, PhD 1992 Maryland

**Randall, James K.** –1971; Professor (Broadcasting), Journalism; BA 1964, MS 1969 Utah

**Renaud, Jerry R.** –1989; Professor (Broadcasting), Journalism; BS 1975, MA 1990 Nebraska (Lincoln)

**Rockwell, Lee V.** –1967; Professor Emeritus (Broadcasting), Journalism; BS 1958, MA 1961 Nebraska (Lincoln)

**Shipley, Linda** –1984; Associate Dean and Professor (Advertising), Journalism; BA 1967 Nebraska (Lincoln); MA 1969 Missouri; PhD 1974 Pennsylvania

**Spann, Thomas** –1975; Associate Professor Emeritus (Broadcasting), Journalism; BA 1968, MA 1969 Alabama; PhD 1973 Louisiana State

**Starita, Joseph** –2000; Professor (News-Editorial), Journalism; BA 1978, MA 1995 Nebraska (Lincoln)

**Struthers, Amy** –2004; Assistant Professor (Advertising), Journalism; BA 1976, MA 1979 Nebraska (Lincoln)

**Thorson, Bruce** –2005; Associate Professor (News-Editorial), Journalism; BS 1983 Oregon; MA 1990 Ohio

**Tidball, Sriyani** –2009; Lecturer (Advertising), Journalism; BSArch 1972, MA 1991 Nebraska (Lincoln)

**Tuck, George** –1970; Professor Emeritus (News-Editorial), Journalism; BA 1965 Hardin-Simmons; MA 1970 Missouri

**Wagler, Adam** –2007; Lecturer (Advertising), Journalism; BFA 2001 Iowa State

**Walklin, Larry** –1967; Professor (Broadcasting), Journalism; BA 1961 Kansas State; MA 1962 Michigan State; PhD 1968 Iowa

**Willet, Phil** –2009; Lecturer (Advertising), Journalism; BS 2003, MS 2005 Florida

**Winter, C. Scott** –2005; Recruiting Coordinator; Assistant Professor (News-Editorial), Journalism; BA 1992 North Dakota; MA 2007 Nebraska (Lincoln)

## Libraries

**Adams, Kate** –1979; Professor, Distance Education and Undergraduate Services; BA, 1970, MALS 1979 Wisconsin (Madison); MPA 1984 Nebraska (Omaha)

**Allison, DeeAnn** –1980; Professor, Computer Operations and Research Services; BA 1977 Hastings; MLS 1978 Hawaii

**Anaya, Toni** –2007; Assistant Professor, Research and Instructional Services; BA 2001, MALS 2003 Arizona

**Baldwin, Virginia** –2000; Professor, Reference and Instructional Services; BS 1965 North Carolina; MS 1968 Florida Institute of Technology; MLIS 1990 Indiana

**Barnes, Joan** –2001; Assistant Professor of Practice, Development/Outreach; BA 1987 Maine (Farmington); MLIS 1989 Rhode Island

**Barney, Brett** –2003; Research Assistant Professor, Digital Initiatives and Special Collections; BA 1990 Brigham Young; MA 1995 Idaho State; PhD 2001 Nebraska (Lincoln)

**Bernholz, Charles** –2003; Associate Professor, Access and Branch Services; BA 1970 Northeastern; MA 1974 Guelph; MLS 1997 SUNY (Buffalo)

**Berenthal, Rebecca** –1989; Associate Professor, Technical Services; BAE 1970 Wayne State; MLS 1972 George Peabody

**Bicknell-Holmes, Tracy** –1988; Professor, Research and Instructional Services; BA 1985 Michigan State; MS 1988 Illinois; MBA 1996 Nebraska (Lincoln)

**Boden, Dana** –1985; Associate Professor, Research and Instructional Services; BS 1979, MAE 1980 Western Kentucky; MLS 1981 Kentucky; PhD 2002 Nebraska (Lincoln)

**Bolin, Mary** –2004; Professor, Technical Services; BA 1976 Nebraska (Lincoln); MSLIS 1981 Kentucky; MA 1999 Idaho; PhD 2007 Nebraska (Lincoln)

**Bolin, Robert** –2004; Associate Professor, Research and Instructional Services; BA 1970 Texas; MSLIS 1981 Kentucky; MPA 1983 Georgia

**Boudreau, Signe** –1997; Associate Professor, Research and Instructional Services; BS 1991 Augustana (Sioux Falls); MILS 1993 Michigan

**Brickbill, Anita** –1989; Professor, Access and Branch Services; BA 1979 Goshen (Indiana); MFA 1981, DMA 1985 Iowa; MLIS 1987 California (Berkeley)

**Busch, Nancy** –2003; Professor, Associate Dean; BS 1972, MLS 1972 Iowa; PhD 1990 Michigan

**Cassner, Mary** –1995; Associate Professor, Research and Instructional Services; BS 1971, MEd 1975 Nebraska (Lincoln); MLS 1994 Emporia State

**Childers, Scott** –2000; Associate Professor, Computer Operations and Research Services; BS 1995 Nebraska (Lincoln); MLS 1999 Emporia State

**Druke, Jeanetta** –1988; Professor, Research and Instructional Services; BA 1972 Southern Illinois; MLS 1975 Illinois

**Ducey, Mary Ellen** –1999; Associate Professor, Digital Initiatives and Special Collections; BA 1988 Nebraska (Lincoln); MLS 1995 Indiana; MA 1999 South Dakota

**Fleming, Adonna** –2004; Associate Professor, Access and Branch Services; BA 1987, MLS 1996 Arizona

**Gardner, Sue Ann** –1995; Associate Professor, Technical Services; BS 1989 Buffalo State; MLS 1992 SUNY (Buffalo)

**Giesecke, Joan** –1987; Professor, Dean of Libraries; BA 1972, MLS 1973 Maryland; MA 1979 Central Michigan; DPA 1988 George Mason

**Goebes, Carole** –1986; Associate Professor, Technical Services; BM 1972 Butler; MM 1976 Hartford; MLS 1986 Florida State

**Graham, Richard** –2004; Assistant Professor, Access and Branch Services; BA 1998 Nebraska (Lincoln); MA 2002 Iowa; MS 2004 Texas A&M (Corpus Christi)

**Graybill, Jolie** –2008; Assistant Professor, Access and Branch Services; BS 1987 Kansas; ME 1996 Minnesota; MA 2005 Arizona

**Jewell, Andrew** –2005; Assistant Professor, Digital Initiatives and Special Collections; BA 1997 Hastings; MA 1999 Missouri; PhD 2004 Nebraska (Lincoln)

**Johnson, Kathleen** –1973; Professor, Research and Instructional Services; BA 1972 Augustana (Rock Island); MA 1973 Iowa; MA 1980 Nebraska (Lincoln)

**Konecky, Joan** –1990; Associate Professor, Research and Instructional Services; BS 1980 Nebraska Wesleyan; MA 1981 Denver

**Latte, Gail** –1988; Professor, Research and Instructional Services; BS 1983 Texas (Arlington); MLS 1988 Texas Women's; PhD 2006 Nebraska (Lincoln)

**Logan-Peters, Kay** –1981; Professor, Access and Branch Services; BA 1978 Nebraska (Lincoln); MALS 1981 Missouri (Columbia)

**Lu, Suping** –1994; Professor, Research and Instructional Services; BA 1982 Nanjing Teachers (China); MA 1992 Ohio; MLS 1994 South Carolina

**Martin, Charity** –1997; Associate Professor, Technical Services; BA 1990 Northeastern State (Oklahoma); MA 1993 Kansas; MLS 1997 North Texas

**Maxey-Harris, Charlene** –1999; Assistant Professor; BS 1983 Nebraska (Lincoln); MA 1985 Missouri (Columbia)

**Mering, Margaret** –1991; Professor, Technical Services; BA 1982 Whittier; MLS 1984 Arizona

**Naylor, Ted** –2007; Lecturer; BE 1981 Oklahoma; MLS 1988 Oklahoma State

**Nowick, Elaine** –1995; Professor, Research and Instructional Services; BA 1971, MS 1976, PhD 1980 Iowa State; MLS 1994 Emporia State

**Panigbutra-Roberts, Anchalee (Joy)** –2007; Assistant Professor, Technical Services; BA 1984 Chiang Mai U-Thailand; BA 1986 St. Olaf; MLS 1988 Wisconsin (Madison)

**Pearson, Deb** –1986; Associate Professor, Access and Branch Services; BS 1982 Nebraska Wesleyan; MLS 1985 Missouri (Columbia)

**Pyltik Zillig, Brian** –2001; Associate Professor, Digital Initiatives and Special Collections; BA 1985 Nebraska (Lincoln); MPA 1996 Nebraska (Omaha); MLS 1999 Emporia State

**Royster, Paul** –2005; Coordinator, Scholarly Communications; AB 1975 Princeton; MA 1977 Michigan; PhD 1984 Columbia

**Thornton-Jaringe, Judellen** –1979; Assistant Professor, Digital Initiatives and Special Collections; BA 1965, MA 1967 Ohio (Cincinnati); MS 1978 Illinois

**Tyler, David** –1999; Associate Professor, Research and Instructional Services; AB 1992 Illinois; MA 1994 Bradley; MS 1998 Illinois

**Voeltz, Richard** –1968; Associate Professor, Access and Branch Services; BS 1964, MS 1967 Kansas State; MLS 1968 Emporia State

**Walter, Katherine** –1980; Professor, Digital Initiatives and Special Collections; BA 1976, MA 1978 Iowa

**Westbrooks, Elaine** –2008; Associate Professor, Associate Dean; BA 1998, MLS 1999 Pittsburgh

**Wolfe, Judith** –2005; Assistant Professor, Technical Services; BAS 2002 Wichita State; MLS 2004 North Texas

## Omaha Programs

### Criminal Justice

**Anderson, Amy L.** –2003; Assistant Professor, Criminal Justice; BS 1997 Ohio State; MA 2000, PhD 2003 Penn State

**Button, Candice** –1999; Interim Director and Associate Professor, Criminal Justice; BA 1991 Nebraska (Lincoln); MA 1993 Kansas State; PhD 1999 Vanderbilt

**DeLone, Gregory J.** –2003; Assistant Professor, Criminal Justice; BS 1986 Florida State; MPA 1996, PhD 2002 Nebraska (Omaha)

**DeLone, Miriam** –1992; Associate Professor, Criminal Justice; BS 1987, MS 1989, PhD 1992 Florida State

**Eskridge, Chris** –1978; Professor, Criminal Justice; BS 1975 Brigham Young; MA 1976, PhD 1978 Ohio State

**Hughes, Lorine A.** –2004; Assistant Professor, Criminal Justice; BS 1996 Oregon State; MA 1999, PhD 2003 Washington State

**Jacobs, Susan** –1990; Associate Professor, Criminal Justice; BA 1967 Phillips; PhD 1971, JD 1976 Nebraska (Lincoln)

**Kadleck, Colleen** –2001; Associate Director and Associate Professor, Criminal Justice; BS 1994 Bowling Green State; MS 1995, PhD 2001 Cincinnati

**Ogle, Robbin S.** –1995; Associate Professor, Criminal Justice; BS 1990 Central Missouri State; MS 1992 Missouri; PhD 1995 Penn State

### Gerontology

**Kelly, Christopher M.** –2006; Assistant Professor, Gerontology; BA 1994 Notre Dame; PhD 2004 Southern California

**Masters, Julie** –2001; Associate Professor, Gerontology; BA 1984 Nebraska (Omaha); MA 1985 Northern Colorado; PhD 1997 Nebraska (Lincoln)

### ROTC

#### Aerospace Studies

**Jurgens, Timothy P.** –2007; Assistant Professor, Aerospace Studies; Capt., US Air Force; AA 1991 Community College of the Air Force; BS 1999 Fort Lauderdale (Florida); MS 2004 Troy State

**Nicholson, Michael W.** –2008; Assistant Professor, Aerospace Studies; Capt., US Air Force; BS 1998 National American; MS 2006 Phoenix

**Vilter, Scott D.** –2006; Professor and Chair, Aerospace Studies; Lt. Col., US Air Force; BS 1988 US Air Force Academy; MA 1997 Webster

#### Military Science

**Cisne, Elizabeth M.** –2006; Professor and Chair, Military Science; Lt. Col., US Army; MHR, MED 1997 Oklahoma; MA 2000 Michigan

**Lindsay, Kevin J.** –2000; Assistant Professor, Military Science; Lt. Col., US Army; BA 1998 Morningside

**Marvin, Stephen M.** –2004; Assistant Professor, Military Science; Maj., US Army; BS 1994 Nebraska (Kearney)

**Ford, Robert W. Jr.** –2007; Assistant Professor, Military Science; Capt., US Army; BA 1995 Nebraska (Lincoln)

**Rivas, Guillermo M.** –2006; Senior Military Instructor, Military Science; M. Sgt., US Army

#### Naval Science

**Aquilar, Ruben** –2008; Assistant Marine Officer Instructor, Naval Science; SSgt., USMC

**Flanagan, Sean C.** –2007; Assistant Professor, Naval Science; Lt., US Navy; BS 2003 North Carolina State

**Grey, Mitchell B.** –2007; Assistant Professor, Naval Science; Capt., USMC; BA 2003 Colorado

**Lee, Michael B.** –2008; Assistant Professor, Naval Science; Lt., US Navy; BS 2002 Charleston

**Litaker, Eric T.** –2006; Professor and Chair, Naval Science; Col., USMC; BS 1979 Oklahoma; MS 1989 Johns Hopkins; MS 1994 Naval Postgraduate School; MS 2000 National War College

**Long, John P.** –2006; Associate Professor, Naval Science; Comdr., US Navy; BS 1979 Rutgers; MA 1998 Oklahoma; MA 2001 Naval War College



# Student Rights and Responsibilities

## The Student in the Academic Community

*The following statement was developed by representatives from the student body, the faculty, and the administration, to spell out the role of the student at UNL. In the spring of 1968, the document was adopted by the student government (ASUN), validated by a referendum vote of the student body, adopted by the University (Faculty) Senate, and accepted by the Board of Regents as a continuing policy.*

Almost a century ago, the people of Nebraska established this University to provide opportunity for human and intellectual development in the service of society. Repeatedly in the history of the institution, the Regents, the faculty, the students, and the interested public have affirmed those qualities within the University community which have enhanced the development of responsible individualism.

It is appropriate, during a time of change and reassessment of established values, that the academic community re-examine and clarify the conditions conducive to the personal and intellectual development of students. It is the purpose of this document to indicate the general character of the expectations, the rights, and the obligations of the students at the University of Nebraska. The significance of this document will depend upon the willingness of students to exercise the opportunities and to accept the obligations, both stated and implied.

Many of the statements contained herein reflect the legacy of the past which has made these values an integral part of the educational environment at the University of Nebraska. There is merit in restating values as a means of strengthening our re-

solve to provide the optimum climate for the educational enterprise and to direct our attentions toward new and better methods of attaining common goals.

It is recommended to the Association of Students of the University of Nebraska, the University Senate, and the Board of Regents that this document be adopted as a statement of institutional policy. As a statement of policy, it should be examined periodically for revision.

## I. General Rights and Responsibilities

All members of the academic community have the responsibility to create and support an educational environment which will achieve the basic purposes of the University. Each member of the community should be treated with respect and dignity. Each has the right to learn. This right imposes a duty not to infringe upon the rights of others. The academic community should assure its members those opportunities, protections, and privileges which provide the best climate for learning. Views and beliefs expressed by a member of the academic community should be kept within the community unless released by the individual. The University encourages a variety of modes in thought, behavior, and values within the guidelines of the educational community.

An important aspect of the educational effort is the recognition of differences between individuals. In all instances, including informal campus activities and associations, each individual should be assured that judgments about the individual will be made on relevant criteria which do not include race and color. Each member of the academic community should actively encourage practices and policies to insure that all races, colors, creeds,

and religions are welcome on the campus and are extended all the privileges of the academic community.

As more and more young people seek the benefits of higher education, it may be desirable for the state University to offer special recognition and assistance to students disadvantaged by limited educational opportunity.

### A. Admission Policy

Admission policies of the University of Nebraska should be made clear to all applicants. The Charter of 1869 explicitly provided that admission and the privileges of the University cannot be denied to an applicant because of age, sex, race, color, national origin, religious or political beliefs.

### B. Rules and Regulations

Regulations are not comprehensive codes of conduct, but rather expressions of the general expectations of the academic community. Upon admission to the University, students should receive statements of these expectations.

Rules and regulations should:

1. seek the best possible reconciliation between personal freedom and necessary order.
2. be formulated with equitable participation by students in areas affecting student life.
3. be as clear and concise as possible, specifying to whom they apply.
4. be designed for guidance and correction of behavior.
5. be enforced by means of clearly defined channels which insure procedural fair play, including students' rights.

- a. to be informed of the specific charges against them.
- b. to receive, upon request, a hearing before a regularly constituted board with the privilege of appeal.
- c. to maintain status as a student while a conduct case is pending.

### C. Off-Campus Freedom of Students

University students enjoy all the rights and privileges of citizenship. Students are subject, however, to the special obligations which accrue to them as members of the academic community. Institutional effort should be exerted to develop, not inhibit, intellectual and personal development of students by the exercise of the rights of citizenship both on and off campus.

The enforcement of the obligations of students to the larger society is the responsibility of the legal and judicial authorities duly established for that purpose. If students are alleged violators of the law, they should proceed through legal channels, and institutional authority should never be used merely to duplicate those functions.

When the interests of the academic community are clearly involved, the authority of the institution should be asserted. The fact that a violation occurs off campus does not preclude the interest and involvement of the University.

When participating in off-campus activities, students should make it clear that in their public expressions or demonstrations they speak and act only for themselves as individuals.

### D. Student Records

All policies and practices concerning student records should be based upon respect for the privacy of the individual. To minimize the risk of improper disclosure, academic and disciplinary records should be separate and the conditions of access to each should be set forth in an explicit policy statement. Transcripts of academic records should include only information about a student's academic status. *Upon graduation*, notations of probation and suspension will be removed from transcripts of the permanent record. Information from disciplinary and counseling files should not be made available to unauthorized persons on campus or to any person off campus without the expressed consent of the student involved, except under legal compulsion or where the safety of other persons is involved. Provision should be made for periodic destruction of noncurrent disciplinary records.

## II. Rights and Responsibilities in the Classroom

### A. Freedom of Expression

It is the responsibility of each faculty member to provide an atmosphere which is conducive to freedom of expression by encouraging discussion and permitting exception to the views he/she has presented. In addition, faculty members have the responsibility to guide and direct such discussion and inquiry in a scholarly manner. The scope and duration of discussion, however, is to be determined by the instructor.

Students have the right of expression in the classroom and the responsibility to learn from the course of study according to the standards of performance established by the faculty. Student behavior in the classroom should contribute to the learning process.

### B. Instructional and Grading Procedures

The faculty determines the character of courses which includes content, instructional and grading procedures. Students should be informed of these matters at the beginning of the course.

Each student has the right to a course grade based upon an unbiased evaluation of his/her performance and the specified grading procedure. A student has the right to ask for clarification of the basis for his/her grade.

The faculties of each college or department should provide a standing committee to consider the appeal of those cases in which a student feels the evaluation of his/her performance was biased. This committee must have the authority to direct change based upon its findings.

### C. Instructor-Student Consultation

Instructors should be available on a regular basis for consultation with students. Students may ask for an evaluation of their performance during the progress of the course. If a student conveys information of a confidential nature to a member of the faculty, his/her confidence should be respected.

### D. Procedure For Course Evaluation

Students can contribute significantly to the evaluation of instruction. The faculty has the obligation to solicit student evaluation of its educational efforts and to make changes in accordance with its best judgment. To assist the faculty in the task of providing the best possible education, students should express their reactions and opinions about the character and relevancy of the instruction to the department or college involved. Each college or school should establish a standing procedure through which student evaluations can be expressed.

## III. Rights and Responsibilities in Other Instructional Settings

### A. Freedom of Expression

The acquisition, understanding, and interpreting of knowledge can be facilitated by the study and evaluation of controversial positions. Free expression should be permitted in publications and broadcasting. Students should be allowed to invite and hear any person of their own choosing. Those procedures required by the institution before a guest speaker appears on campus should insure orderly scheduling of facilities and adequate preparation for the event. The institutional control of campus facilities should not be used as a device of censorship. However, all activities should be conducted in a manner appropriate to an academic community.

It should be made clear to the academic and larger communities that sponsorship of events and speakers does not necessarily imply approval or

endorsement of the views or actions either by the sponsoring group or the University. Participation in the exchange of ideas through these media is normal in the academic community.

### B. Student Government

Students should be free, individually or collectively, to express their views on issues of institutional policy and on matters of general interest to the student population. The students should have clearly defined means to participate equitably in the formulation of institutional policies and procedures which affect student life. Student government is the principal agency for student participation in the decision-making process of the University.

### C. Student Organizations

Students bring to the campus a variety of interests and can be expected to develop new interests as members of the academic community. They should be free to organize and join associations to promote their common interests, provided those associations are not antagonistic to the basic purposes of the institution. Students should be able to participate in those organizations provided they meet the membership requirements set up by the organization; in no instance will these criteria for membership include race or color.

*This document was approved by the Student Senate of ASUN (April 7, 1968), a Referendum of the Student Body (April 10, 1968), the University Senate (May 14, 1968), and the Board of Regents (June 19, 1968).*

## Student Records Policy

The student records policy at the University of Nebraska-Lincoln is in compliance with the Family Education Rights and Privacy Act.

### I. Kinds of Information Maintained About Students

#### A. Academic Information

1. All records and documents pertaining to a student's academic standing and progress are maintained in a student's cumulative academic folder, e.g., admissions application, high school transcript, semester grade reports, cumulative academic records, etc.
2. Cumulative files containing academic information are maintained by the Office of Registration and Records, by some college offices (students should inquire of their dean), by some faculty advisers, by some academic departments in which a student has his/her major, and by the Office of International Educational Services (for international students).

#### B. Behavioral Information

1. Behavioral information records including all documents pertaining to disciplinary proceedings and notices of sanctions imposed as a result of official University disciplinary action are maintained in confidential files. These files

- are kept separate from a student's cumulative academic folder.
- Confidential files containing behavioral information are maintained in the Division of University Housing, the Office of Greek Affairs, and/or the Office of the Vice Chancellor for Student Affairs, depending on the origin and disposition of the behavioral case. The chief administrator of each office is responsible for the overall supervision of the files in that office.

#### C. Other Student Services Information

- Certain educational records and personal information for job placement purposes may be maintained in: the Career Planning and Placement Center under the supervision of the Director of Career Planning and Placement (includes Teacher Placement Office), and in some academic colleges (e.g., the College of Agriculture, the College of Law, etc.) for students enrolled in those colleges. Each college dean is responsible for overall supervision of files in his/her college.
- Cumulative files containing scholarship and financial aid applications with supporting data and records of scholarship and financial aid awards previously made are maintained in the Office of Scholarships and Financial Aid under the supervision of the Director of Scholarships and Financial Aid.
- Files containing records of a student's financial accounts (tuition and loan) are maintained in the Office of Student Accounts under the supervision of the Office of the Comptroller.

## II. Who Has Normal Access to These Files

#### A. Academic Information

Faculty advisers, college deans, departmental chairpersons, financial aid, registration and records personnel, and counselors or advisers in offices where academic information is maintained would normally have access to academic files. Other University personnel have access to academic information only for purposes related to their educational function and/or job responsibilities. Persons and agencies outside the University have access to academic information *only with* the written consent of the student.

#### B. Behavioral Information

Normally, only staff members employed within the office or division where student behavioral information is maintained have access to such information. Other University personnel have access to student behavioral information only for purposes related to their educational function and/or job responsibilities. Persons or agencies outside the University have access to student behavioral information *only with* the written consent of the student.

#### C. Other Student Services Information

- University personnel employed in offices maintaining placement functions (i.e., the Career Planning and Placement Center and some academic colleges) are normally the only persons who have access to a student's

placement files. University personnel outside of those University offices maintaining placement functions would have access only for purposes related to their educational function and/or job responsibilities. Persons or agencies outside the University community would have access to placement information only with the written consent of the student.

- Scholarships and Financial Aid office personnel are normally the only persons who have access to scholarship and financial aid information. University personnel other than Office of Scholarships and Financial Aid personnel have access to scholarship and financial aid files only for purposes related to their educational function and/or job responsibilities. Persons and agencies outside the University community have access to such information only with the written consent of the student or parents if parental financial information is involved.
- Student Accounts office personnel are normally the only persons who have access to a student's financial account information. Other University personnel have access to financial account information only for purposes related to their educational function and/or job responsibilities. The Office of Student Accounts considers all students as "dependents" for the purpose of the release of financial account information to parents or guardians. If a student wishes to have all financial account information excluded from parents or guardians, the student must notify the Office of Student Accounts before the tenth calendar day of each semester. Other persons and agencies outside the University community have access to such information only with the written consent of the student.

## III. Procedures to Access Files

Students who wish to gain access to their personal file within a University office or department should contact the chief administrator or supervisor of that office or department. The chief administrator or supervisor of the office will advise the student of the necessary steps to be taken and of any costs to be assessed to the student for reproduction of file materials.

## IV. Challenge Procedures

Students who wish to challenge the accuracy of any document contained within a cumulative file should contact the dean or director of the office which maintains that file. The dean or director will hear the student's reasons for the challenge and attempt to informally resolve or arbitrate any contested points or issues. If an informal disposition cannot be made, the student has the right to a hearing before an impartial board duly established for such purpose. Students desiring a hearing should contact the appropriate dean or director to: (1) request a hearing, (2) establish a hearing date, and (3) obtain copies of the hearing board's rules and procedures. The student shall be given notice of the date, place, and time reasonably in advance of the hearing. The student shall be afforded a full and fair opportunity to present evidence relevant

to the issues and may be assisted by individuals of his/her own choice at his/her own expense. After the hearing is held, a written decision will be issued within a reasonable period of time after the conclusion of the hearing. The decision shall be based solely upon the evidence presented at the hearing and shall include a summary of the evidence and the reasons for the decision.

## V. Copies of Cumulative Record Documents

Copies of documents contained within a student's cumulative file will be made available to the student upon written request. (Exception: Copies of transcripts and records furnished by other colleges, universities, or schools will not be made available to the student *if* the document in question is available through the initiating agency.) The actual cost of reproducing these records may be assessed to the student. Upon receiving a request to reproduce documents in a cumulative file, the office involved will notify the student requesting the documents of any reproduction costs which the student must pay.

## VI. Release of Information to a Third Party

When a student provides written consent for release of information to another school, business, or agency, the University office or department complying with the request will notify the school, business, or agency involved that it may not pass on the information obtained to a third party without the further consent of the student.

## VII Public or Directory Information

The following information pertaining to students has been declared to be public information by the Board of Regents of the University of Nebraska:

- student name
- local address
- permanent address
- telephone listings
- year at the University
- dates of attendance
- academic college and major field of study
- enrollment status (e.g. undergraduate or graduate; full-time or part-time)
- participation in officially recognized activities and sports
- degrees, honors and awards received
- most recent educational agency or institution attended

Students are advised that information other than public or directory information may be released in emergency or life-threatening situations.

# Student Code of Conduct and Disciplinary Procedures

University students are both citizens and members of the academic community. As members of the academic community, students are subject to the obligations which accrue to them by virtue of this membership. As members of the larger community of which the University is a part, students are entitled to all the rights and protections enjoyed by other members of that community. By the same token, students are also subject to all civil laws, the enforcement of which is the responsibility of duly constituted civil authorities. When a student violates a University regulation, he/she is subject to disciplinary action by the University whether or not his/her conduct violates civil law. If a person's behavior simultaneously violates both a University regulation and the civil law, the University may take disciplinary action independent of that taken by civil authorities. When a student violates civil law off campus, he/she may incur penalties prescribed by civil authorities. University discipline may also be initiated in instances of off-campus student misconduct which adversely affects the University's pursuit of its recognized educational purposes.

## Policy Statements

### I. Campus Disorders

The heritage of academic freedom at the University of Nebraska is reflected in the Statement of Principles by the Board of Regents: "The right to uphold, to discuss, and dissent is the moral fiber of America's greatness. They are likewise the strength of a great University." In accepting the "Student in the Academic Community" document, all segments of the University reaffirmed this principle and explicitly extended it to students. Accordingly, members of the academic community, including the guests of the University, have the right to extensive latitude in making their opinions known. It is understood, however, that in exercising this right, the rights of others must not be jeopardized. The public exploration and resolution of differing views can be successful only when groups and individuals discuss the issues in forums where the right to disagree, to speak freely and be heard, is preserved. Within this context, the University community recognizes peaceful demonstrations as a legitimate means of expressing one's opinion.

The preservation of freedom of speech, and the recognition of the right to peaceful demonstration as part of that freedom, is possible only in an orderly environment in which individuals are not endangered by force or violence and in which they are free from coercion and interference in the exercise of their activities. Consequently, in the specific case of campus demonstrations, the University community may impose behavioral restrictions which are necessary to preserve the orderly functioning of the University and the right of all to be heard. Such restrictions include, but are not limited to, the following two categories:

#### A. Prevention of Violence or the Use of Force

Demonstrations which coerce individuals or which constitute a hazard to the safety of any persons or which threaten destruction of property are not protected by freedom of speech provisions and will not be tolerated. Similarly, a hostile audience will not be allowed to interfere with a peaceful demonstration.

#### B. Protection from Interference with University Operations

The University community may restrict conduct which interferes with the holding of classes, the carrying forward of University business, properly organized and scheduled University events, or the discharge of responsibility by any University officer, employee, or student. Although the mere presence of demonstrators in public areas within buildings does not necessarily constitute interference, demonstrators cannot be allowed to physically obstruct access to University facilities. Noise and boisterous activity are objectionable when they prevent others from exercising their rights and duties.

Persons engaging in disruptive action shall be subject to University disciplinary measures for misconduct, including separation from the University, as well as being held accountable by civil authority for violation of criminal and civil laws.

### II. Disruptive Action

The response of the University to disruptive action must ultimately depend on the judgment of the officials who are in charge. However, the following guidelines should be observed:

1. Every effort will be made to end the disruption through reason and persuasion. These efforts will include willingness to discuss issues involved and to establish procedures for discussion and arbitration of the issues involved. Discussion of the issues will not be conducted under condition of duress.
2. If discussion efforts fail, the individuals involved will be asked to cease the disruptive action. In the event the alleged violators do not cease the disruptive activity within a reasonable length of time, temporary sanctions, which may include conduct probation and, if necessary, suspension, may be imposed on the scene. However, unless both the student and the University officials agree to a postponement, the University must hold disciplinary hearings within five (5) school days after the imposition of temporary sanctions. Such disciplinary hearings shall be held in accordance with the established Disciplinary Procedures of the University. No temporary sanction shall be made part of a student's permanent record. If a student is found innocent of the action for which temporary sanctions were imposed, no record of the temporary sanction or of the hearings shall become part of any of the student's files or records, and the student shall be given the opportunity to make up any work which the disciplinary action prevented him/her from completing.
3. If the use of institutional sanctions and discussion methods are not effective in ending the

disruption, or when alleged violators are not members of the University community, extra-institutional methods (including the invoking of police force) may be used. Non-members of the University community who are engaged in disruptive action may be referred to civil authorities for appropriate action.

4. Evidence regarding the activity of nonstudent members of the University community who are alleged to have engaged in disruptive behavior may be referred to their supervisors for appropriate actions. The University community abhors the use of force as a method for settling disagreements and will always make exhaustive attempts to deal with issues by rational methods. When, however, such rational efforts prove ineffective or when imminent danger to life or property exists, more forceful methods shall be used to protect the rights and property of the community.

### III. Public Hearings

It shall be the right of any individual member or group of members of the University (i.e., students, faculty or administrators) to be granted, upon petition to the appropriate policy-making body or office, a public hearing at which the policy indicated by the group of petitioners in their petition shall be discussed. The policy-making body or office petitioned shall schedule the hearing for some time convenient to the interested parties, if possible no later than two weeks after the petition is submitted during periods when the University is in session, and shall announce publicly in advance the time and place of the hearing. At the hearing, that body responsible for the policy indicated in the petition shall give an explanation of the policy, offer the reasons which justify the policy in view of the objections or questions raised about it in the petition, and respond to any additional questions or criticisms of the policy or related policies raised at the hearing. It is expected that before such a petition is submitted all normal channels for raising questions about the policy will have been exhausted. If, in view of the policy-making body or office to whom the petition is submitted, the petition is merely a form of harassment or adequate answers are available through other normal channels, the petition may be referred to the Vice Chancellor for Student Affairs to determine whether the hearing must be held. A decision by the Vice Chancellor for Student Affairs not to hold a public hearing shall be overruled by the submission of a petition requesting such hearing and signed by at least 100 members of the University community.

### IV. Drugs

#### A. Possession, Distribution, Manufacture

The University, as an agency of the State of Nebraska, having a responsibility to abide by both state and federal laws, hereby declares that possession, use, distribution, sale or manufacture of drugs on this campus except as allowed by law is contrary to University policy. The University will cooperate fully with state and federal law officials in the enforcement of all state and federal laws regarding illegal sale, possession or use of drugs.

## B. Definition

The term "drug" and "drugs" in this statement means any drug possessed, used, distributed, sold or manufactured in violation of the laws of the State of Nebraska or laws of the United States. Some common examples include, but are not limited to:

**Depressants:** alcohol, barbiturates (i.e., Seconal®, Nembutal®), other sedative-hypnotic drugs (i.e., Doriden®, Noludar®), minor tranquilizers (i.e., Miltown®, Librium®), and narcotic analgesics (i.e., morphine, heroin).

**Stimulants:** amphetamine derivatives (i.e., Dexadrine®, Methamphetamine®), and cocaine.

**Cannabis:** marijuana, hashish, and other preparations containing cannabis or its components.

**Hallucinogens:** LSD, mescaline, psilocybin, and other related drugs.

## V. Drug Education and Rehabilitation

In addition to its responsibility to assist state and federal officials in the enforcement of state and federal laws, the University as a campus community recognizes a responsibility to its members for education and rehabilitation. Therefore, this policy on drugs shall be administered in the best interest of the physical and mental health of individual members of the campus community. To accomplish this, students found to be in need of emergency treatment as a result of drug misuse may be taken to the University Health Center or other appropriate medical facilities where individual problems shall be handled in **strict confidence**. In addition, all members of the campus community are encouraged to consult with the University Health Center concerning their services for treatment, rehabilitation, information, and education.

To further implement a sound drug program, the University of Nebraska hereby adopts and promulgates the following guidelines:

1. Evidence obtained from an individual concerning the use of drugs while the individual is seeking personal counseling shall not be used in connection with any disciplinary action under the Student Code of Conduct or Disciplinary Procedures.
2. Seeking hospitalization or medical attention due to the misuse of drugs will not in itself be used in connection with any disciplinary action under the Student Code of Conduct or Disciplinary Procedures.
3. Conviction in a court of law for off-campus possession of drugs when the possession of such drugs does not in any way interfere with the implementation of the aims and purposes of the University will not subject the individual involved to disciplinary action under the Student Code of Conduct or Disciplinary Procedures.

## VI. Dangerous Weapons

Firearms, ammunition, and other dangerous weapons may not be possessed, used, or stored on the campus by anyone other than a law enforcement officer. This complete ban shall preclude storage of such weapons in vehicles operated or

parked on the campus or on the premises of a student housing unit.

Students who desire to store a firearm and ammunition in close proximity to their campus living unit for hunting or other lawful purposes may register and store such materials with UNL Police Services. Any firearms and ammunition to be stored by the police must be taken directly to the campus police station, and must be taken directly off campus following their retrieval for lawful use. Access to stored weapons is available on a 24-hour basis, and space is provided for cleaning weapons after their use.

Violation of the campus ban on firearms, ammunition, and other dangerous weapons will result in disciplinary action under the Student Code of Conduct, including the possible confiscation of the banned objects.

regulated under Nebraska criminal laws relating to drugs and narcotics. The controlled substances listed in Neb. Rev. Stat. □ 28-405 include those drugs listed in the University Policy Statement on Drugs.

**2.5 Firearm.** Firearm shall mean any weapon which is designed to or may readily be converted to expel any projectile by the action of an explosive or frame or receiver of any such weapon.

**2.6 Hazing.** Hazing shall mean any activity by an organization or by a member of an organization in which a member, prospective member, pledge or associate of the organization is subjected to acts which cause harm or create risk of harm to the physical or mental health of the member, prospective member or pledge. Hazing includes, but is not limited to, any act or activity which causes or might reasonably be expected to cause fear or intimidation, extended deprivation of sleep or rest, forced consumption of any substance, physical exhaustion, physical harm (beating, boarding, paddling, branding or exposure to weather), or damage to property.

**2.7 Judicial Officer.** Judicial Officer shall mean the University Director of Student Judicial Affairs or a University official authorized by the Vice Chancellor for Student Affairs to impose sanctions upon students or organizations found to have violated the Student Code of Conduct or other published University policies and regulations prescribing standards of student conduct.

**2.8 Member of the University Community.** Member of the University community shall mean any person who is a student, faculty member, University official or any other person employed by the University.

**2.9 Misconduct.** Misconduct shall mean any act of misconduct proscribed in this Code of Conduct or violation of any other published University policy or regulation prescribing a standard of student conduct.

**2.10 Organization.** Organization or student organization shall mean any student group recognized by the University pursuant to any policy of the University relating to student organizations. The term organization shall include any fraternity or sorority and any student organization established by or recognized by an academic or administrative unit of the University.

**2.11 Student.** Student shall mean any person taking courses on the campus of the University of Nebraska-Lincoln, either full-time or part-time, pursuing undergraduate, graduate or professional studies. Persons who are enrolled in courses of the University of Nebraska Medical Center or the University of Nebraska at Omaha delivered on the campus of the University of Nebraska-Lincoln shall be considered students for the purpose of this Code of Conduct and the University Disciplinary Procedures. Persons who are not officially enrolled for a particular term but who have a continuing relationship with the University, such as completion of academic work from a prior term, shall be considered students for the purpose of this Code of Conduct and the University Disciplinary

## Student Code of Conduct

### 1. General

Students at the University of Nebraska-Lincoln are members of both the University community and the larger community of which the University is a part. Students are entitled to all of the rights and protections enjoyed by members of the larger community. At the same time, as members of the University community, students have the responsibility to conduct themselves in a lawful manner and in compliance with the University's standards for student conduct. The purpose of this Code is to specify acts of student misconduct for which an offending individual or student organization will be subject to disciplinary sanctions under the University Disciplinary Procedures.

### 2. Definitions

The following definitions shall apply to the Student Code of Conduct and to the University Disciplinary Procedures:

**2.1 Alcoholic Beverage.** Alcoholic beverage shall include alcohol, spirits, wine, beer and every liquid or solid containing alcohol, spirits, wine or beer and capable of being consumed as a beverage by a human being.

**2.2 Campus.** Campus shall mean all land, buildings and facilities of or owned, used or controlled by the University of Nebraska-Lincoln, all student housing units, and all streets, alleys, sidewalks and public ways abutting any land of the University or the land upon which a student housing unit is located.

**2.3 Dangerous Weapon.** Dangerous weapon shall mean any firearm, knife, bludgeon, or other device, instrument, material, or substance, whether animate or inanimate, which in the manner it is used or intended to be used is capable of producing death or bodily injury.

**2.4 Drug.** Drug shall mean any controlled substance included in Neb. Rev. Stat. □ 28-405 (1989 Reissue), which lists controlled substances

Procedures. An individual who was an enrolled student at the time of any alleged misconduct shall be considered a student for the purpose of this Code of Conduct and the University Disciplinary Procedures.

**2.12 Student Housing Unit.** Student housing unit or living unit shall mean any University residence hall, any fraternity house, any sorority house, or any other student housing facility recognized by the University.

**2.13 University.** University shall mean the University of Nebraska-Lincoln.

**2.14 Unlawful.** Unlawful or unlawfully shall mean in violation of any ordinance of a municipality or in violation of any law or regulation of the United States, the State of Nebraska or any other state.

### **3. University Disciplinary Jurisdiction**

**3.1 Applicability of Code and Disciplinary Procedures.** The provisions of this Student Code of Conduct and the University Disciplinary Procedures shall apply to individual students and to student organizations.

**3.2 On-Campus Jurisdiction.** University disciplinary jurisdiction shall extend to any case of alleged misconduct by any student or organization occurring on the campus.

**3.3 Student Housing Unit Jurisdiction.** University disciplinary jurisdiction shall extend to any case of alleged misconduct by any student or organization occurring on the premises of any student housing unit.

**3.4 Off-Campus Jurisdiction.** University disciplinary jurisdiction shall extend to any case of alleged misconduct by any student or organization occurring at an off-campus activity or event of or sponsored by the University or an organization. Other alleged misconduct by any student or organization occurring off-campus shall not be subject to University disciplinary jurisdiction unless the misconduct adversely affects the educational interests of the University. Off-campus misconduct in violation of a criminal law or involving falsification, alteration or fraudulent use of any University document, record or instrument of identification may, depending upon the nature and gravity of the circumstances, constitute misconduct adversely affecting the educational interests of the University for which an offending student or organization will be subject to disciplinary proceedings and sanctions under the University Disciplinary Procedures. Any misconduct associated with the use of a University vehicle shall be subject to disciplinary proceedings and sanctions. The Vice Chancellor for Student Affairs and the Judicial Officer shall be the University officials having authority to determine on a case-by-case basis whether University disciplinary proceedings shall be instituted for off-campus misconduct adversely affecting the educational interests of the University.

**3.5 University Disciplinary Proceedings Independent of Civil or Criminal Proceedings.** University disciplinary proceedings may be instituted against a student or organization charged with

violation of a law which is also misconduct under this Code without regard to the pendency of civil litigation or criminal prosecution. University disciplinary proceedings may be carried out prior to, simultaneously with, or following civil or criminal proceedings off campus.

### **4. Misconduct**

The following acts constitute misconduct under this Student Code of Conduct and the University Disciplinary Procedures.

#### **4.1 Disruption or Obstruction of University Operations, Activities or Functions; Unauthorized Occupation of University Premises.**

- a. Participation in a demonstration on the campus which materially and substantially disrupts the normal operations of the University and infringes upon the rights of other members of the University community.
- b. Leading or inciting others to materially and substantially disrupt scheduled activities at any location on the campus.
- c. Material and substantial disruption or obstruction of teaching, research, administration, or other University activities, including its public service functions on or off campus, or other authorized activities on the campus.
- d. Material and substantial disruption of any activity or event of or sponsored by the University or an organization, either on or off campus.
- e. Obstruction of ingress to or egress from any University building or facility or any student housing unit.
- f. Obstruction of the free flow of pedestrian or vehicular traffic on the campus.
- g. Unauthorized occupation or use of or entry into any University building or facility or any student housing unit, including both indoor and outdoor facilities.

#### **4.2 Academic Dishonesty.**

- a. The maintenance of academic honesty and integrity is a vital concern of the University community. Any student found guilty of academic dishonesty shall be subject to both academic and disciplinary sanctions. Academic dishonesty includes, but is not limited to, the following:
  1. Cheating. Copying or attempting to copy from an academic test or examination of another student; using or attempting to use unauthorized materials, information, notes, study aids or other devices for an academic test, examination or exercise; engaging or attempting to engage the assistance of another individual in misrepresenting the academic performance of a student; or communicating information in an unauthorized manner to another person for an academic test, examination or exercise.
  2. Fabrication and Falsification. Falsifying or fabricating any information or citation in any academic exercise, work, speech, test or examination. Falsification is the alteration of information, while fabrication is the invention or counterfeiting of information.
- b. In cases where an instructor finds that a student has committed any act of academic dishonesty, the instructor may in the exercise of his or her professional judgment impose an academic sanction as severe as giving the student a failing grade in the course. Before imposing an academic sanction the instructor shall first attempt to discuss the matter with the student. If deemed necessary by either the instructor or the student, the matter may be brought to the attention of the student's major adviser, the instructor's department chairperson or head, or the dean of the college in which the student is enrolled. When an academic sanction is imposed which causes a student to receive a lowered course grade, the instructor shall make a report in writing of the facts of the case and the academic sanction imposed against the student to the instructor's department chairperson or head and to the Judicial Officer. The Student shall be provided with a copy of this report. Further, the instructor may recommend the institution of disciplinary proceedings against the student for violation of this Code, if the instructor in the exercise of his or her professional judgment believes that such action is warranted.
- c. In cases where an instructor's finding of academic dishonesty is admitted by the student and an academic sanction is imposed by the instructor which the student believes to be too severe, the student shall have the right to appeal the severity of the academic sanction through the applicable grade appeal procedure.
- d. In cases where an instructor's finding of academic dishonesty is disputed by the student,

3. Plagiarism. Presenting the work of another as one's own (i.e., without proper acknowledgment of the source) and submitting examinations, theses, reports, speeches, drawings, laboratory notes or other academic work in whole or in part as one's own when such work has been prepared by another person or copied from another person.

4. Abuse of Academic Materials. Destroying, defacing, stealing, or making inaccessible library or other academic resource material.

5. Complicity in Academic Dishonesty. Helping or attempting to help another student to commit an act of academic dishonesty.

6. Falsifying Grade Reports. Changing or destroying grades, scores or markings on an examination or in an instructor's records.

7. Misrepresentation to Avoid Academic Work. Misrepresentation by fabricating an otherwise justifiable excuse such as illness, injury, accident, etc., in order to avoid or delay timely submission of academic work or to avoid or delay the taking of a test or examination.

8. Other. Academic units and members of the faculty may prescribe and give students prior notice of additional standards of conduct for academic honesty in a particular course, and violation of any such standard of conduct shall constitute misconduct under this Code of Conduct and the University Disciplinary Procedures.

b. In cases where an instructor finds that a student has committed any act of academic dishonesty, the instructor may in the exercise of his or her professional judgment impose an academic sanction as severe as giving the student a failing grade in the course. Before imposing an academic sanction the instructor shall first attempt to discuss the matter with the student. If deemed necessary by either the instructor or the student, the matter may be brought to the attention of the student's major adviser, the instructor's department chairperson or head, or the dean of the college in which the student is enrolled. When an academic sanction is imposed which causes a student to receive a lowered course grade, the instructor shall make a report in writing of the facts of the case and the academic sanction imposed against the student to the instructor's department chairperson or head and to the Judicial Officer. The Student shall be provided with a copy of this report. Further, the instructor may recommend the institution of disciplinary proceedings against the student for violation of this Code, if the instructor in the exercise of his or her professional judgment believes that such action is warranted.

c. In cases where an instructor's finding of academic dishonesty is admitted by the student and an academic sanction is imposed by the instructor which the student believes to be too severe, the student shall have the right to appeal the severity of the academic sanction through the applicable grade appeal procedure.

d. In cases where an instructor's finding of academic dishonesty is disputed by the student,

the matter shall be referred to the Judicial Officer for disposition in accordance with the University Disciplinary Procedures. Any academic sanction imposed by the instructor shall be held in abeyance pending a final decision of guilt or innocence under the University Disciplinary Procedures. If it is determined through these procedures that the student is not guilty of academic dishonesty, the instructor's academic sanction shall be set aside. If it is determined that the student is guilty of academic dishonesty, the instructor's academic sanction shall be imposed in addition to any disciplinary sanction which may be imposed under the University Disciplinary Procedures, subject to the student's right to appeal the severity of the academic sanction through the applicable grade appeal procedure.

e. The provisions of Section 4.2 of this Code relating to academic dishonesty and the procedures applicable thereto do not apply to law students in the College of Law who are governed by the Honor Code of the College of Law.

#### **4.3 Falsification or Misuse of University Identification and Other Documents.**

- a. Forging, altering or otherwise falsifying any University document, any University record or any University instrument of identification, or assisting another student in such misconduct.
- b. Borrowing, lending or improperly possessing any University instrument of identification.
- c. Submitting false information to any member of the faculty or staff or to any University office.

#### **4.4 Misuse of Computers or Computing Resources.**

Computing resources at the University exist for the purposes of education, research, service, and administration. The use of computing resources for any purpose other than a purpose for which they are intended is an act of misconduct. Misuse of computers shall include:

- a. Accessing or attempting to access computing resources or computer-based information without proper authorization.
- b. Disrupting the intended use of computers or computer networks.
- c. Damaging or destroying computer equipment or computer-based information.
- d. Using a computer for an unauthorized purpose.
- e. Violating copyright laws or license restrictions with respect to the copying or use of computer programs, data, materials or information.
- f. Unauthorized use of another person's identification or password.
- g. Unlawful or unauthorized access to or use of computers, computer networks and computer data, programs, materials or information. See Neb. Rev. Stat. §§ 28-1343 through 28-1348 (1989 Reissue).

**4.5 Alcohol.** Unlawful or unauthorized possession, use, distribution, dispensing, delivery, sale or consumption of any alcoholic beverage.

**4.6 Drugs.** Unlawful or unauthorized possession, distribution, delivery, dispensing, manufacture or sale of any drug; unlawful possession of any drug

with intent to distribute, deliver, dispense, manufacture or sell any drug; or being unlawfully under the influence of any drug.

**4.7 Smoking.** Smoking in any University facility or vehicle except designated private student rooms in student housing units.

**4.8 Physical Abuse.** Physically abusing or threatening to physically abuse any person.

**4.9 Disturbing the Peace.** Any act occurring on the University campus or on the premises of a student housing unit which intentionally disturbs the peace and quiet of any person or group of persons.

#### **4.10 Harassment.**

- a. Engaging or attempting to engage in any act for the purpose of injuring, threatening, or unreasonably alarming another or for the purpose of unreasonably interfering with any person's work, education, or the environment or activities surrounding one's work or education.
- b. If a person has been advised not to engage in certain acts and subsequently does so, there shall be a rebuttable presumption that the subsequent acts were done for one or more of the purposes set forth in the above paragraph.
- c. This section shall be strictly construed so as not to infringe upon the constitutional rights of free speech and expression of any person; and shall apply only to those acts described in paragraph (a) of this section.

**4.11 Sexual Assault.** Sexual assault or any other uninvited behavior of a sexually explicit nature.

**4.12 Dangerous Conduct.** Conduct which is unreasonably dangerous to the health or safety of other persons or oneself.

**4.13 Theft.** Theft or attempted theft of any property.

**4.14 Property Damage.** Damaging or attempting to damage property of the University or of another individual.

**4.15 Fireworks and Explosives.** Using or possessing bombs, explosives, incendiary devices, or fireworks.

**4.16 Fires.** Setting or attempting to set any fire on the campus or on the premises of any student housing unit, except in fireplaces or other facilities designated for fires.

**4.17 False Alarm.** Turning in a false fire alarm or bomb threat or misusing fire safety equipment on the campus or on the premises of any student housing unit.

**4.18 Failure to Report Fire.** Failing to report a fire or any other extremely dangerous condition when known or recognized on the campus or on the premises of any student housing unit.

**4.19 Firearms, Ammunition, Dangerous Weapons and Dangerous Chemicals.** Possessing or selling firearms, ammunition, other dangerous weapons, or dangerous chemicals on the campus or on the premises of any student housing unit.

**4.20 Obstruction of Law Enforcement Officers, Firefighters or University Officials.** Obstructing or failing to comply with the directions of a law enforcement officer, firefighter or University official in the performance of his or her duty on the University campus, on the premises of any student housing unit or at any activity or event sponsored by the University or an organization.

**4.21 Hazing.** Hazing any person. The intent of any person engaging in hazing activity or the consent or cooperation of any person who is a victim of hazing will not constitute a defense to an allegation of misconduct for hazing.

**4.22 Indecent Exposure.** Committing any unlawful act of indecent exposure or public indecency.

**4.23 Gambling.** Any gambling activity in violation of the laws of the State of Nebraska or of the United States.

**4.24 Unauthorized Use of University Property.** Unauthorized use of any University property, facilities, equipment or materials.

**4.25 Unauthorized Keys and Unlocking Devices.** Possessing, producing, manufacturing, or having manufactured without proper authorization, any key or unlocking device for use on any University facility or lock.

**4.26 Traffic Violations.** Serious traffic violations on the campus, including operating any vehicle while intoxicated, speeding, reckless endangerment, or reckless driving.

**4.27 Regulations Pertaining to Student Housing Units.** Violation of any student housing unit policy, rule or regulation.

**4.28 Insufficient Fund or No Account Checks.** Failure to redeem or make arrangements to redeem, within one week after receipt of written notice, an insufficient funds or no account check submitted to the University for cash or for payment of University goods or services.

**4.29 Abuse of Disciplinary Proceedings.** Abuse of University disciplinary proceedings shall include the following:

- a. Failure to obey a request to appear before a judicial officer or a judicial board.
- b. Falsification of testimony before a judicial officer or a judicial board.
- c. Disruption or interference with the orderly conduct of any judicial board hearing.
- d. Attempting to discourage any person from using University Disciplinary Procedures or participating in any disciplinary proceeding.
- e. Filing a malicious or frivolous complaint under the University Disciplinary Procedures or subordinate judicial board disciplinary procedures.
- f. Attempting to influence the impartiality of a member of a judicial board prior to or during any disciplinary proceeding.
- g. Verbal or physical harassment or intimidation of a member of a judicial board prior to, during or after any disciplinary proceeding.

- h. Failure to comply with any sanction imposed under the University Disciplinary Procedures or under any subordinate judicial board disciplinary procedures.
- i. Violation of the privacy rights of any student or University employee in regard to any disciplinary proceeding.
- j. Influencing or attempting to influence another person to commit an abuse of disciplinary proceedings.

**4.30 Other Unlawful Acts.** Any act by a student which occurs on the campus, on the premises of any student housing unit or at any activity or event sponsored by the University or an organization which is in violation of any law of the State of Nebraska or of the United States, or in violation of any ordinance of the City of Lincoln, shall constitute misconduct.

## 5. Disciplinary Sanctions

One or more of the following disciplinary sanctions may be imposed as provided in the University Disciplinary Procedures whenever a student or student organization is found to be guilty of misconduct under this Code of Conduct or under other published policies or regulations of the University prescribing standards of student conduct:

**5.1 Warning.** Written notice to the student or organization that continuation or repetition of specified misconduct may be cause for other disciplinary action.

**5.2 Restitution.** Reimbursement for damage to or misappropriation of property or reimbursement for medical expenses incurred by a third party as a direct result of misconduct. Reimbursement may take the form of service, other indirect compensation or direct financial compensation.

**5.3 Confiscation of Dangerous Weapons.** Weapons, firearms, ammunition or other dangerous weapons possessed, used or stored on the campus in violation of the Code of Conduct may be confiscated.

**5.4 Probation.** A specified period of time during which a student or organization is warned that any further violation of the Code of Conduct will be cause for further disciplinary action. During the period of probation the student or organization may be prohibited from participating in specified activities.

**5.5 Behavioral Requirement.** Written conditions imposed by a judicial board or a judicial officer which establish specified requirements for the student or organization.

**5.6 Suspension.** Exclusion from all or specified classes and/or exclusion from all or specified privileges or activities of the University and/or exclusion from the campus for a specified period of time. In cases involving organizations, suspension may include loss of all privileges, including loss of University recognition for a specified period of time.

**5.7 Expulsion.** Permanent termination of student status or organizational status at the University.

## 6. Referral to Civil Authorities

When circumstances warrant the University administration will refer acts of misconduct to appropriate civil or criminal justice authorities.

# University Disciplinary Procedures

## 1. General

**1.1 Right to Disciplinary Proceeding.** Except in cases of temporary suspension ordered by the Chancellor as hereafter provided, suspension, expulsion or other disciplinary sanction for misconduct may not be imposed without a disciplinary proceeding in accordance with the following University Disciplinary Procedures, hereafter referred to as these Disciplinary Procedures.

**1.2 Student Court Jurisdiction.** Nothing in these Disciplinary Procedures shall affect the jurisdiction of the Student Court of the Association of Students of the University of Nebraska (ASUN) with respect to ASUN constitutional matters, student organizations and other non-disciplinary student matters.

**1.3 Disciplinary Procedures of Subordinate Judicial Boards.** All subordinate judicial boards shall model their disciplinary procedures insofar as possible after these Disciplinary Procedures. See Sections 12.1 and 12.2 relating to subordinate judicial boards.

## 2. Initiation of Disciplinary Proceedings

**2.1 Complaint.** Any member of the University community may file a written misconduct complaint against a student or organization alleging misconduct under the Student Code of Conduct or other published University policy or regulation prescribing a standard of student conduct. Misconduct complaints shall be filed in the Office of Student Judicial Affairs.

**2.2 Responsibility of Judicial Officer.** If the Judicial Officer determines that the misconduct alleged in a complaint warrants the institution of disciplinary proceedings, he or she shall insure compliance with these Disciplinary Procedures.

**2.3 Disqualification of Judicial Officer.** In the event the Judicial Officer may be a material witness in any disciplinary proceeding or for any reason cannot perform his or her duties under these Disciplinary Procedures, the Vice Chancellor for Student Affairs shall appoint an acting Judicial Officer to perform such duties.

**2.4 Review of Complaint.** The Judicial Officer shall make a preliminary investigation of each complaint to determine whether it may be disposed of without institution of disciplinary proceedings. Within 20 school days after receipt of a written misconduct complaint against a student or

student organization, the Judicial Officer must decide on one of three courses of action: (a) dismiss the complaint, (b) propose an administrative disposition to the student, or (c) initiate a disciplinary proceeding before the University Judicial Board or a subordinate judicial board.

**2.5 Informal Meeting.** The Judicial Officer may conduct an informal meeting with a student or organization accused of misconduct to discuss the misconduct alleged. Prior to any such informal meeting the student or organization accused of misconduct shall be apprised in writing of the following:

- a. The source and nature of the misconduct complaint which has been filed.
- b. That the student or organization is entitled to be accompanied by counsel or an adviser at the expense of the student or organization at any meeting or hearing relevant to the misconduct alleged in the complaint.
- c. That the student or organization is under no obligation at any time to admit the misconduct alleged or to make any other statement at any meeting or hearing relevant to the misconduct alleged.
- d. That any statement that the student or any representative of the organization may make can be used against the student or organization under these Disciplinary Procedures.

During any such informal meeting the Judicial Officer may proceed with administrative disposition of a complaint pursuant to Section 4.2 of these Disciplinary Procedures if the Judicial Officer determines that administrative disposition is appropriate and if the same is accepted by the student or organization as provided in Section 4.2.

**2.6 Failure to Respond or Appear.** If a student or organization accused of misconduct fails to respond to a request to appear for an informal meeting with the Judicial Officer pursuant to Section 2.5 within ten school days after the request document was postmarked, the Judicial Officer may initiate disciplinary proceedings before the University Judicial Board or a subordinate judicial board. If a student or organization fails to appear for a scheduled informal meeting, the Judicial Officer may initiate disciplinary proceedings before the University Judicial Board or a subordinate judicial board.

## 3. Temporary Suspension

Pending initiation of disciplinary proceedings by the Judicial Officer, the Chancellor may at any time temporarily suspend a student from the University or deny a student readmission when the Chancellor finds and believes from information coming to his or her attention that the presence of the student on the University campus would seriously disrupt the University or constitute a danger to the health, safety or welfare of persons on the campus. If a student is temporarily suspended by the Chancellor, the Chancellor shall promptly instruct the Judicial Officer to initiate appropriate disciplinary proceedings against the student within two (2) working days after

temporary suspension is imposed. If a student placed on temporary suspension is ultimately found not guilty of misconduct, such student shall be allowed if at all possible to make up academic work missed while on suspension.

## 4. Administrative and Judicial Board Disciplinary Proceedings

**4.1 General.** If the Judicial Officer determines that the institution of a University disciplinary proceeding for alleged misconduct is necessary, such proceeding shall be instituted against the student or organization accused of misconduct in accordance with the procedures for administrative disposition or the procedures for judicial board disposition hereinafter provided.

**4.2 Administrative Disposition.** The Judicial Officer, in the exercise of his or her professional judgment and when agreed to in writing by the student or organization, shall have authority by administrative disposition of a disciplinary proceeding to impose any of the disciplinary sanctions provided in Sections 5.1 through 5.6 of the Student Code of Conduct. The proposed administrative disposition shall list all Student Code of Conduct violations with which the student or organization is being charged as a result of the alleged misconduct. Where an administrative disposition proposed by the Judicial Officer is not accepted in writing by the student or organization, the student or organization shall have the right to have the matter of the alleged misconduct referred to the University Judicial Board. The student or organization shall have three (3) school days within which to accept or reject an administrative disposition proposed by the Judicial Officer. If the student or organization fails to accept or reject the proposed administrative disposition within such three day period, rejection will be presumed and the matter shall be referred to the University Judicial Board or a subordinate judicial board as provided in Section 4.3.

**4.3 Judicial Board Disposition.** If a student or organization rejects administrative disposition of a disciplinary proceeding proposed by the Judicial Officer, the Judicial Officer shall institute a disciplinary proceeding against the student or organization before the University Judicial Board or before a subordinate judicial board for the misconduct alleged in the complaint. The disciplinary proceeding so instituted shall be limited to those Student Code of Conduct violations listed in the rejected administrative disposition, unless new evidence becomes available after the administrative disposition was rejected. Further, the Judicial Officer in the exercise of his or her professional judgment may institute a disciplinary proceeding for alleged misconduct directly before the University Judicial Board or before a subordinate judicial board without first offering administrative disposition to a student or organization accused of misconduct.

**4.4 Jurisdiction.** The University Judicial Board shall have general original jurisdiction under these Disciplinary Procedures to hear and decide any disciplinary proceeding against a student or organization accused of misconduct. Subordinate

judicial boards shall have limited original jurisdiction to hear and decide disciplinary proceedings according to their respective disciplinary procedures. (See Section 13.1(e) relating to jurisdiction of subordinate judicial boards.)

## 5. University Judicial Board Procedure

**5.1 Notice.** All disciplinary proceedings before the University Judicial Board shall be instituted by written notice delivered to the student accused of misconduct or delivered to an officer of the organization accused of misconduct. Such written notice shall contain the following information:

- a. Source of the misconduct complaint.
- b. Statement of alleged facts constituting misconduct under the Student Code of Conduct or other published University policy or regulation prescribing a standard of student conduct.
- c. Citation of the specific provision(s) of the Code of Conduct or other University policy or regulation alleged to have been violated.
- d. Description of the evidence to be offered in support of the alleged misconduct.
- e. Date, time and place of the hearing before the Judicial Board. Each hearing shall be at least three (3) school days after the date of receipt of the written notice.
- f. A statement that the student or organization accused of misconduct may be accompanied by counsel or other adviser at the hearing before the Judicial Board at the expense of the student or organization, and that such counsel or adviser may advise the student or organization, but may not directly participate in the hearing.
- g. That the student or organization accused of misconduct is under no obligation to admit the truth of the alleged misconduct or to make any other statement at the hearing relevant to the alleged misconduct, and that refusal to testify or make a statement will not be considered as an indication of guilt.
- h. That the student or organization accused of misconduct has the right to inspect before the hearing in the office of the Director of Student Judicial Affairs any affidavits, exhibits or other documentary evidence or physical evidence which the Director intends to offer at the hearing, and that the student or organization will be advised in writing prior to the hearing of any subsequently discovered evidence which the Director intends to offer at the hearing and will be provided with a description of the evidence and allowed to examine the same if it is documentary or physical evidence.

**5.2 Failure to Appear.** The student accused of misconduct or a student officer of the organization accused of misconduct will be expected to be present at the hearing before the Judicial Board. If the student or a student officer of the organization fails to appear at the time and place designated for the hearing, the Judicial Board shall proceed with the hearing if a majority of the Judicial Board members present are satisfied that the student or organization has received written notice as required by Section 5.1. The Judicial Board will then

proceed in the absence of the student or organization to hear and weigh the evidence in support of the alleged misconduct and render a decision.

**5.3 Quorum.** Every student or organization accused of misconduct in disciplinary proceedings before the Judicial Board is entitled to a hearing by a quorum of the Board. A quorum will consist of at least two faculty members and three student members of the Board. If a quorum is not present, the student or student officer of the organization, as the case may be, and the Judicial Officer may stipulate and agree in writing that the Judicial Board hearing may be conducted and the case may be decided by those Judicial Board members present even though a quorum has not been established.

**5.4 Status Pending Judicial Board Proceedings.** The status of a student accused of misconduct shall not be altered and the right of a student to be present on campus and to attend classes shall not be suspended during the time of any disciplinary proceeding against the student unless the Chancellor or the Vice Chancellor for Student Affairs determine that suspension of the student is required for compelling reasons in order to protect the student's physical or emotional health or safety or for compelling reasons in order to protect the health, safety or welfare of other members of the University community. The status of an organization accused of misconduct shall not be altered during the time of any disciplinary proceeding against the organization, unless the Chancellor or the Vice Chancellor for Student Affairs determines that suspension of the organization from the University is required for compelling reasons in order to protect the health, safety or welfare of the University community.

### 5.5 Disqualification of a Board Member.

- a. If any member of the Judicial Board feels that his or her relationship with either a disciplinary proceeding to be heard or any individual or organization involved in the proceeding would affect his or her ability to render a fair and impartial decision, such Judicial Board member shall disqualify himself or herself from participation in the proceeding. Additionally, a member may elect not to serve on the Judicial Board for a particular proceeding if the member in the exercise of reasonable discretion believes there may be an appearance of impropriety by his or her serving as a member of the Judicial Board for that proceeding.
- b. The student accused of misconduct or a student officer of the organization accused of misconduct may question any Judicial Board member with regard to his or her attitude or knowledge about the disciplinary proceeding to be heard. If a member of the Board is challenged for cause by the student or organization, the other members of the Board present shall, without the presence of the challenged member, vote upon the challenge. If a majority of the members present vote to sustain the challenge, the challenged member shall be excused from further participation in the proceeding. The foregoing shall not relieve the Judicial Board from the requirement of maintaining a quorum for the hearing as required by Section 5.3 above.

**5.6 Judicial Board Hearings Closed.** All hearings of the Judicial Board shall be closed to the public in order to comply with the requirements of the Federal Family Educational Rights and Privacy Act.

**5.7 Right to Separate Hearing.** In proceedings involving alleged misconduct against more than one student or organization, any student or organization accused of misconduct may request and shall be granted a separate disciplinary proceeding before the Judicial Board.

**5.8 Hearings During Dead Week, Finals Week and Summer Sessions.** Judicial Board hearings may not be available during the last two weeks of each semester (Dead Week and Finals Week) and during summer school sessions. During these time periods the Vice Chancellor for Student Affairs may designate one or more hearing officers who shall be authorized to conduct hearings and render decisions in disciplinary proceedings in accordance with the procedures governing the Judicial Board.

**5.9 Decisions.** The Judicial Board shall render a written decision in each proceeding in accordance with the requirements of Sections 7.1 and 7.2 of these Disciplinary Procedures.

## 6. Rules for Conduct of Judicial Board Hearings

**6.1 General.** Judicial Board hearings shall be conducted in a manner which will provide substantial justice for the student or organization accused of misconduct and for the University community.

**6.2 Order of Evidence and Closing Arguments.** Evidence shall be submitted in the following order: (i) evidence by the University in support of the alleged misconduct, (ii) evidence by the student or organization accused of misconduct, and (iii) evidence by the University confined to rebutting evidence presented by the student or organization. After the presentation of evidence the Judicial Officer shall be given the opportunity to present a closing argument followed by a closing argument by the student or organization.

**6.3 Examination of Witnesses.** The student or organization accused of misconduct, the Judicial Officer and each member of the Judicial Board shall be allowed to hear and question all witnesses appearing at the hearing.

**6.4 Attorney or Adviser Not Allowed to Participate in Hearing.** An attorney or other adviser for a student or organization accused of misconduct may be present at the hearing to counsel the student or organization, but may not directly participate in the hearing. Without limiting the generality of the foregoing sentence, an attorney or other adviser shall not be permitted to make oral presentations or arguments, examine or cross-examine a witness, or object to testimony of a witness or to introduction of other evidence.

**6.5 Evidentiary Rules.** The Board shall not be bound by the formal rules of evidence applicable to a court of law. It may admit and give probative effect to evidence, including hearsay evidence, which possesses probative value commonly accepted by reasonably prudent persons in the conduct of their affairs. Incompetent, irrelevant, immaterial and unduly repetitious evidence may be excluded. The Judicial Board shall designate one of its members to make rulings on admission of evidence.

**6.6 Verbatim Record.** The Judicial Board shall make a confidential verbatim record of each hearing. Such verbatim record shall be made by tape recording or verbatim transcription by a court reporter and shall be the property of the University. Copies of such record may be obtained by an accused student or organization upon payment of the cost of duplication and used only for the purpose of an appeal under these Disciplinary Procedures or proceedings in a court of law. In no event shall the record of a Judicial Board hearing be used in a manner which violates the privacy rights of any student, University employee or other person.

**6.7 Burden of Proof.** In all cases the University shall have the burden of proving the misconduct alleged against the student or organization by a preponderance of the evidence received at the hearing. Preponderance of the evidence is not determined by the number of witnesses who testify concerning a disputed fact, but rather is that amount of evidence which on the whole, and when fairly and impartially considered, produces the stronger impression on the Judicial Board and is more convincing of the existence of the fact when weighed against the evidence in opposition thereto. If the evidence concerning a disputed fact is evenly balanced or if it preponderates in favor of the accused student or organization, then the University will have failed to meet the required burden of proof. The Judicial Board is not limited to consideration of evidence introduced by the University in determining whether the University has met its burden, but should consider any evidence tending to establish the University's contention of a disputed fact, even though such evidence is introduced by another.

## 7. Judicial Board Decisions

**7.1 Form of Decision.** After hearing a disciplinary proceeding, the Judicial Board by a majority vote based upon the evidence received shall render a decision as follows:

- a. Not In Violation. Misconduct has not been proved; or
- b. In Violation. Misconduct has been proved. In this case the Judicial Board may decide not to impose a disciplinary sanction, if mitigating circumstances warrant that no sanction be imposed, or it may decide to impose disciplinary sanctions as follows:
  1. Warning
  2. Restitution
  3. Confiscation of Dangerous Weapons

4. Conduct Probation
5. Behavioral Requirement
6. Suspension or
7. Expulsion

Sanctions listed in 1 through 7 above may be combined. See Sections 5.1 through 5.7 of the Code of Conduct for a description of disciplinary sanctions. Sanctions imposed by the Judicial Board shall be commensurate with the gravity of the misconduct.

**7.2 Written Decisions; Delivery.** The Judicial Board shall render its decisions in writing within ten (10) school days after the conclusion of a hearing. Each decision shall contain findings of fact as well as the Board's disposition of the proceeding and shall be delivered to the Office of the Vice Chancellor for Student Affairs together with the verbatim record of the Judicial Board hearing. A copy of the decision shall be mailed within one school day to the student or organization accused of misconduct at the address of record as verified at the hearing.

In disciplinary proceedings involving crimes of violence, the judicial officers of the University of Nebraska-Lincoln will, if requested by the victims, disclose to the victims whether charges against students violating the Student Code of Conduct were upheld. The disciplinary sanctions imposed on the offenders may be disclosed to the victims at the discretion of the judicial officers. Violations of the Student Code of Conduct and Disciplinary Procedures which may be considered crimes of violence include: physical abuse, sexual assault, dangerous conduct, and hazing.

## 8. Supplemental Rules

The Judicial Board may adopt supplemental rules and regulations, not in conflict with the provisions of these Disciplinary Procedures, which the Board shall determine to be necessary for the fair and impartial conduct of its proceedings.

## 9. Rehearing

A student or organization found guilty of misconduct by the Judicial Board may petition the Judicial Board to rehear the proceedings upon the discovery of new evidence within 90 days from the date of the decision of the Judicial Board, except that in cases of suspension a petition for rehearing request may be filed anytime during the term of suspension, and in cases of expulsion there shall be no time limit on the filing of a petition for rehearing. The Judicial Board will judge the sufficiency of the new evidence, and no appeal may be taken from its decision to either grant or deny the request to rehear the disciplinary proceedings. If a rehearing is granted the verbatim record of the original hearing shall be fully admissible as evidence. In the rehearing of a case the student or organization must bear the burden of proving that the original decision should be modified or rescinded because of the new evidence.

## 10. Judicial Board Membership and Term of Office

**10.1 Membership.** The University Judicial Board shall have five student members and four faculty members. The ASUN Senate shall provide the Chancellor with fifteen recommendations from which he or she will select five regular student members and five alternate student members to serve on the Judicial Board. The Academic Senate shall provide the Chancellor with twelve recommendations from which he or she will select four regular faculty members and four alternate faculty members to serve on the Judicial Board. Members shall attend a Judicial Board training session prior to serving on the Board.

**10.2 Vacancies.** Vacancies on the Judicial Board, including temporary vacancies, may be filled by the Vice Chancellor for Student Affairs or his or her designee from the list of alternate members appointed by the Chancellor. Should the need arise, the Academic Senate and the ASUN Senate shall at the request of the Chancellor submit additional lists of alternate members to the Chancellor. Should the Academic Senate or the ASUN Senate refuse or for any reason fail to submit any of the above-mentioned lists of alternate members to the Chancellor when requested, the Chancellor shall directly make any appointment required to fill a vacancy on the Judicial Board.

**10.3 Term of Office.** Members of the University Judicial Board shall be appointed for a term of one academic year from the first day of classes extending through the last day of classes. Members may be reappointed provided their names are included on the lists submitted to the Chancellor pursuant to Section 10.1. Members may not serve more than two consecutive terms.

**10.4 Chairperson.** The Judicial Board shall select a student chairperson and a faculty chairperson, either of whom may preside at Judicial Board hearings.

### 10.5 Removal from the Judicial Board.

If any of the following situations occur, a member may be removed from the Judicial Board by the Vice Chancellor for Student Affairs:

- A member fails to respond to meeting notices more than twice in a single semester.
- A student member is found to be in violation of the Student Code of Conduct.
- A member is found to be in violation of the privacy rights of any member of the University community who is involved in a disciplinary proceeding.

## 11. Appeals and University Appeals Board Procedure

**11.1 Right of Appeal.** A student or organization found guilty of misconduct by the University Judicial Board or any subordinate judicial board shall have the right to appeal to the University Appeals Board which has exclusive appellate jurisdiction in all disciplinary proceedings.

**11.2 Timeliness.** Any appeal must be submitted in writing to the University Appeals Board and received in the Office of the Vice Chancellor for Student Affairs within fourteen (14) calendar days after the date of mailing the Judicial Board decision to the student or organization accused of misconduct.

**11.3 Issues to be Considered on Appeal.** The Appeals Board will only consider one or more of the following four issues on appeal:

- That the evidence received by the judicial board was not sufficient to establish the misconduct found.
- That the judicial board did not conduct its proceedings in a manner which permitted the student or organization accused of misconduct an adequate opportunity to present a defense.
- That sanctions imposed by the judicial board are not in keeping with the gravity of the misconduct.
- That the judicial board failed to follow the applicable disciplinary procedures and that as a result of such failure the student or organization did not receive a fair and impartial hearing.

An appeal which does not clearly raise in writing one or more of the four issues listed above shall be dismissed without further consideration. The Appeals Board shall limit its review to the issue or issues raised in the written appeal and shall not address any issue not raised. The Appeals Board shall complete its review of the written appeal within 20 school days after its receipt, and shall promptly issue written notice of its decision to the student or student organization.

**11.4 Oral Arguments.** In considering an appeal, the Appeals Board may ask both the student or organization making the appeal and the Judicial Officer to make an oral presentation. In this case the student or organization making the appeal shall first make an oral presentation followed by an oral presentation by the Judicial Officer. The Appeals Board may ask questions of both parties.

**11.5 Record of Proceedings Before the Judicial Board.** Upon request by the Appeals Board, the Judicial Officer shall deliver to the Appeals Board the record of the judicial board proceedings, including the tape recording or written transcription of the judicial board hearing.

**11.6 Disposition By Appeals Board.** After reviewing an appeal complying with the requirements of Section 11.3, the Appeals Board may decide as follows:

- Affirm the judicial board decision; or
- Order a rehearing before the Appeals Board following the hearing procedures applicable to the University Judicial Board if the Appeals Board finds (i) that the evidence received by the judicial board was not sufficient to establish the misconduct found, or (ii) that the proceedings of the judicial board were not conducted in a manner which allowed the student or organization an adequate opportunity to present a defense, or (iii) that the judicial board failed to follow the applicable disciplinary procedures

and that as a result of such failure the student or organization did not receive a fair and impartial hearing; or

- Modify any sanction imposed by a judicial board if the Appeals Board finds that the sanction is not in keeping with the gravity of the misconduct found.

### 11.7 Status Pending Appeals Board Proceedings.

Any sanctions imposed by a judicial board shall be suspended until an appeal is decided by the University Appeals Board. The status of a student shall not be altered and the right of a student to be present on campus and to attend classes shall not be suspended during the time of any appeal proceeding unless the Chancellor or the Vice Chancellor for Student Affairs determines that suspension of the student is required for compelling reasons in order to protect the student's physical or emotional health or safety or for compelling reasons in order to protect the health, safety or welfare of other members of the University community. The status of an organization shall not be altered during the time of any appeal proceedings unless the Chancellor or the Vice Chancellor for Student Affairs determines that suspension of the organization from the University is required for compelling reasons in order to protect the health, safety or welfare of the University community.

**11.8 Quorum.** A quorum will consist of one faculty member and two student members. If a quorum is not present, the student or student officer of the organization, as the case may be, and the Judicial Officer may stipulate and agree in writing that the appeal may be heard by those Appeals Board members present even though a quorum has not been established.

**11.9 Disqualification of an Appeals Board Member.** If any member of the Appeals Board feels that his or her relationship with either a disciplinary proceeding to be heard or any individual or organization involved in the proceedings would affect his or her ability to render a fair and impartial decision, such Appeals Board member shall disqualify himself or herself from participation in the proceeding. Additionally, a member may elect not to serve on the Appeals Board for a particular appeal proceeding if the member in the exercise of reasonable discretion believes there may be an appearance of impropriety by his or her serving as a member of the Appeals Board for that appeal proceeding. The foregoing shall not relieve the Appeals Board from the requirement of maintaining a quorum as required by Section 11.8 above.

**11.10 Attorney or Adviser Not Allowed to Participate.** An attorney or other adviser for a student or organization may be present at any proceedings of the Appeals Board to counsel the appellant student or organization, but may not directly participate in the proceedings.

**11.11 Verbatim Record.** The Appeals Board shall make a confidential verbatim record of its proceedings. Such verbatim record shall be made by tape recording or verbatim transcription by a court reporter and shall be the property of the University.

**11.12 Appeals During Dead Week, Finals Week and Summer Sessions.** Appeals Board hearings may not be available during the last two weeks of each semester (Dead Week and Finals Week) and during summer school sessions. During these time periods the Vice Chancellor for Student Affairs may designate one or more hearing officers who shall be authorized to hear appeals and render decisions in accordance with the procedures governing the Appeals Board.

**11.13 Appeals Board Proceedings Closed.** All proceedings of the Appeals Board shall be closed to the public.

**11.14 Appeals Board Decision Final.** Decisions of the Appeals Board shall be final and may not be further appealed within the University.

## 12. Appeals Board Membership and Term of Office

**12.1 Membership.** The University Appeals Board shall have four student members and three faculty members. The ASUN Senate shall provide the Chancellor with eight recommendations from which he or she will select four regular student members to serve on the Appeals Board. The Academic Senate shall provide the Chancellor with six recommendations from which he or she will select three faculty members to serve on the Appeals Board. Members shall attend a Judicial Board training session prior to serving on the Board.

**12.2 Term of Office.** Members of the University Appeals Board shall be appointed for a term of one academic year. Members may be re-appointed provided their names are included on the lists submitted to the Chancellor pursuant to Section 11.1. Members may not serve more than two consecutive terms.

**12.3 Chairperson.** The Appeals Board shall select a student chairperson and a faculty chairperson, either of whom may preside at Appeals Board hearings.

**12.4 Removal from the Appeals Board.** If any of the following situations occur, a member may be removed from the Appeals Board by the Vice Chancellor for Student Affairs.

- a. A member fails to respond to meeting notices more than twice in a single semester.
- b. A student member is found to be in violation of the Student Code of Conduct.
- c. A member is found to be in violation of the privacy rights of any member of the University community who is involved in a disciplinary proceeding.

## 13. Subordinate Judicial Board Structure

**13.1 Subordinate Judicial Boards.** The Vice Chancellor for Student Affairs may require that subordinate judicial boards be established by the Director of University Housing in conjunction

with the Residence Hall Association, and by the Director of Greek Affairs in conjunction with the Interfraternity Council and the Panhellenic Association. The disciplinary procedures under which a subordinate judicial board will function must be in conformity with these Disciplinary Procedures and shall not become effective until approved by the Vice Chancellor for Student Affairs. All subordinate judicial boards shall be established in accordance with the following requirements:

- a. Composition. Student members of a subordinate judicial board shall be nominated by members of the cognizant student governing or coordinating body and appointed by the Vice Chancellor for Student Affairs. Faculty and staff members of a subordinate judicial board shall be nominated by the cognizant director (University Housing or Greek Affairs) and appointed by the Vice Chancellor for Student Affairs.
- b. Term of Office. Members of the subordinate judicial board shall be appointed for a term of one academic year beginning the first day of classes and extending through the last day of classes. Each member has the obligation to attend an orientation session to be held before the first case may be heard.
- c. Quorum. Each subordinate judicial board will establish its own rules with respect to the quorum required to conduct a hearing.
- d. Staff Advisers. Subordinate judicial boards will have staff advisers from the appropriate departments within the Division of Student Affairs.
- e. Jurisdiction. Each subordinate judicial board will have limited original jurisdiction as provided in its disciplinary procedures over alleged violations of the Student Code of Conduct, University policies and regulations, regulations of the cognizant student governing or coordinating body and regulations of member organizations of the governing or coordinating body.
- f. Decisions. After hearing a case, a subordinate judicial board may decide as follows:
  1. Not Guilty. Misconduct has not been proved; or
  2. Guilty. Misconduct has been proved. In this case a subordinate judicial board may decide not to impose a disciplinary sanction, if mitigating circumstances warrant that no sanction be imposed, or it may decide to impose one or more of the following disciplinary sanctions:
    - Warning
    - Restitution
    - Conduct Probation
    - Behavioral Requirement
- g. Appeals. Appeals from decisions of a subordinate judicial board may be made to the University Appeals Board in accordance with Section 11 of these Disciplinary Procedures.

**13.2 Jurisdictional Issues.** Issues relating to the jurisdiction of any subordinate judicial board shall be decided by the Vice Chancellor for Student Affairs.

## 14. Disciplinary Records

Transcripts of University academic records will not include information concerning disciplinary action, except in cases of expulsion. Information from disciplinary and counseling files will not be made available to unauthorized persons without the express written consent of the person involved or as otherwise authorized or required by law. Disciplinary records shall be destroyed seven years after the last sanction was imposed, except in case of expulsion, where disciplinary records shall be permanently maintained. Notwithstanding the foregoing, records of Honor Code violations of the College of Law shall be maintained only as provided by said Honor Code.

## 15. Readmission After Expulsion

Any student who has been expelled from the University under these Disciplinary Procedures may at any time after seven (7) years from the date of expulsion request readmission to the University by written petition to the Vice Chancellor for Student Affairs. If the Vice Chancellor for Student Affairs in the exercise of his or her discretion grants readmission, the student's prior disciplinary record of expulsion shall be destroyed.

*This Code of Conduct was established in 1973. It was revised June 1980, June 1990, June 1995, and June 1999.*



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